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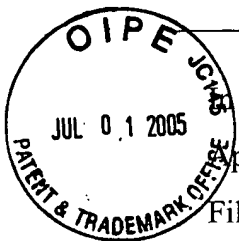
Docket No.:

App. No.: 09/557,234

June 29, 2005

Page 1 of 2

Please Direct All Correspondence to Customer Number **20995**



are application of : Patrick J. O' Donnell  
 Appl. No. : 09/557,234  
 Filed : April 24, 2000  
 For : METHOD AND  
 APPARATUS FOR  
 DISLODGING INSECTS  
 FROM PLANTS

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June 29, 2005

(Date)  
 Glen L. Nuttall, Reg. No. 46,188

Examiner : A. Valenti

Art Unit : 3643

07/05/2005 BABRAHA1 00000075 09557234

03 FC:2251

60.00 OP

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Transmitted herewith in triplicate is an Applicant's Appeal Brief to the Board of Patent Appeals:

The present application qualifies for Small Entity Status under 37 CFR 1.27.

FEE CALCULATION				
FEE TYPE		FEE CODE	CALCULATION	TOTAL
Appeal Brief	41.20(b)(2)	2402 (\$250)		\$250
1 Month Extension	1.17(a)(1)	2251 (\$60)		\$60
Request for Oral Hearing	41.20(b)(3)	2403 (\$500)		\$500
			<b>TOTAL FEE DUE</b>	<b>\$810</b>

- (X) Submission of Supplemental Declaration of Patrick O' Donnell.
- (X) Request for Oral Hearing
- (X) Submission of Copies of Cases, Statutes and M.P.E.P. Sections Cited in Applicant's Brief.
- (X) A check in the amount of \$810 to cover the foregoing fees is enclosed.
- (X) If applicant has not requested a sufficient extension of time and/or has not paid any other fee in a sufficient amount to prevent the abandonment of this application, please consider this as a Request for an Extension for the required time period and/or authorization to

Docket No.: ~~PD00N:DDIA~~

June 29, 2005

App. No.: 09/557,234

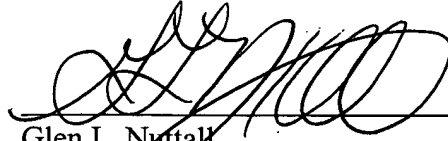
Page 2 of 2

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant : Patrick J. O'Donnell  
Appl. No. : 09/557,234  
Filed : April 24, 2000  
For : METHOD AND APPARATUS  
FOR DISLODGING INSECTS  
FROM PLANTS  
Examiner : A. Valenti  
Group Art Unit : 3643

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June 29, 2005

(Date)  
  
Glen L. Nuttall, Reg. No. 46,188

REQUEST FOR ORAL HEARING

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby requests and Oral Hearing in this Appeal.

A check in the amount of \$500 for the Oral hearing is enclosed. The Commissioner is hereby authorized to charge any additional fees which may be required, now or in the future, or credit any overpayment to Account No. 11-1410.

07/05/2005 BABRAHA1 00000075 09557234

02 FC:2403

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Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 6/29/05

By:

Glen L. Nuttall  
Registration No. 46,188  
Attorney of Record  
Customer No. 20,995  
(949) 760-0404

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PATENT

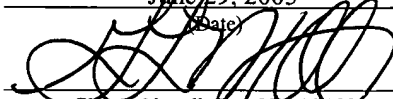
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
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Examiner : A. Valenti  
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## CERTIFICATE OF MAILING

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June 29, 2005

  
Glen L. Nuttall, Reg. No. 46,188

APPLICANT'S APPEAL BRIEF

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

07/05/2005 BABRAHA1 00000075 09557234

01 FC:2402

250.00 OP

This Appeal Brief is submitted in connection with an appeal to the Board of Patent Appeals and Interferences from the Final Rejection of the above-referenced Application as set forth in the Office Action mailed September 24, 2004. A check for \$250 for filing this Brief is enclosed. Should any additional fees be necessary, please charge them to our Deposit Account No. 11-1410.

I. REAL PARTY-IN-INTEREST

The real party-in-interest in this appeal is the Applicant and inventor, Patrick J. O'Donnell.

II. RELATED APPEALS AND INTERFERENCES

Applicant is unaware of any related appeals or interferences.

III. STATUS OF THE CLAIMS

Claims 19-28 and 33-40 are pending in this Application. Claims 1-18 and 29-32 have been cancelled and are thus not at issue in this appeal. In accordance with 37 C.F.R.

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§ 1.192(c)(9), a copy of the claims involved in this appeal is included in the Appendix attached hereto.

#### **IV. STATUS OF AMENDMENTS**

No amendments have been filed subsequent to the final rejection. However, Applicant filed a Request for Reconsideration on March 24, 2005. The Examiner has not responded to the Request for Reconsideration.

#### **V. SUMMARY OF THE INVENTION**

##### **A. Some gardeners wish for chemical-free insect removal and plant cleaning**

A pervasive gardening problem is the invasion of insects that feed on garden plants, damaging the health of the plant and often creating unsightly residues. Typically, insects prefer the bottom sides of plant leaves. The present invention is directed to a specific device and associated method for quickly and easily spraying both the top and bottom sides of plant leaves with water to remove insects and clean the plant without using any chemicals.

It is known to spray plants with water to remove the insects. However, spraying tends to be cumbersome, difficult, and time-consuming, and it generally meets with only limited success.<sup>1</sup> The present invention solves this problem, and enables users to quickly, easily and very effectively dislodge insects from and clean a plant.

##### **B. Applicant's elongate sprayer directs a water flow outwardly from an axis of the nozzle around substantially the entire circumference of the nozzle axis, and enables a user to treat tops and bottoms of plant leaves**

Figure 1, reproduced below, is a perspective view of an embodiment of the handheld sprayer. In the illustrated embodiment, the sprayer 20 includes a handle 26 and a body 28. A nozzle 30 is at a distal end of the body 28. The sprayer 20 also includes a bend 200. The illustrated embodiment includes two spaced-apart sprays directed outwardly from a longitudinal axis of the nozzle. Other embodiments employ only a single spray.<sup>2</sup>

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<sup>1</sup> See Specification, page 2, line 18 – page 3, line 14.

<sup>2</sup> See *Id.*, at page 6, lines 14-31.

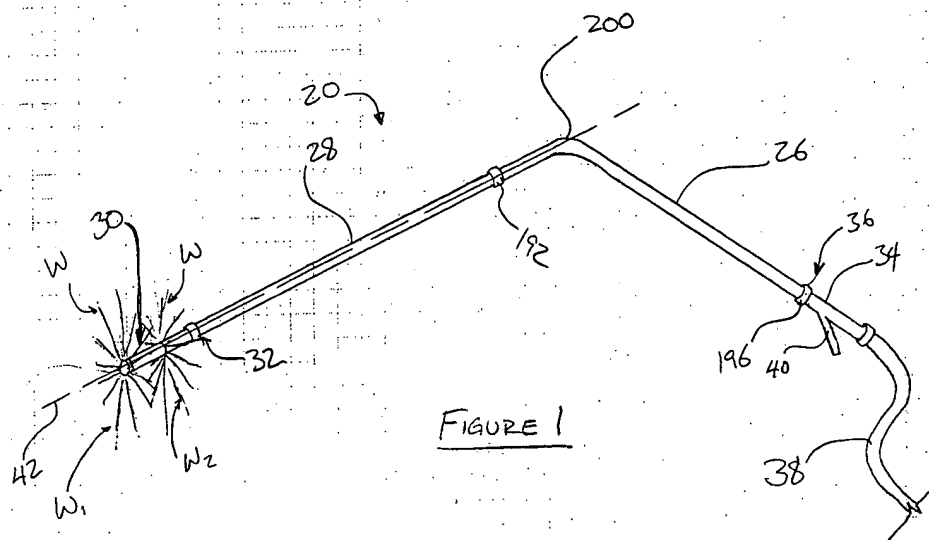
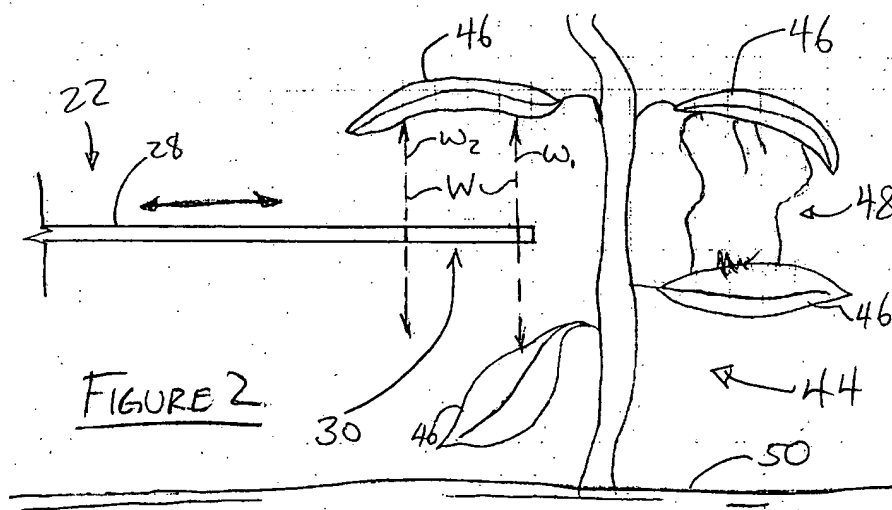


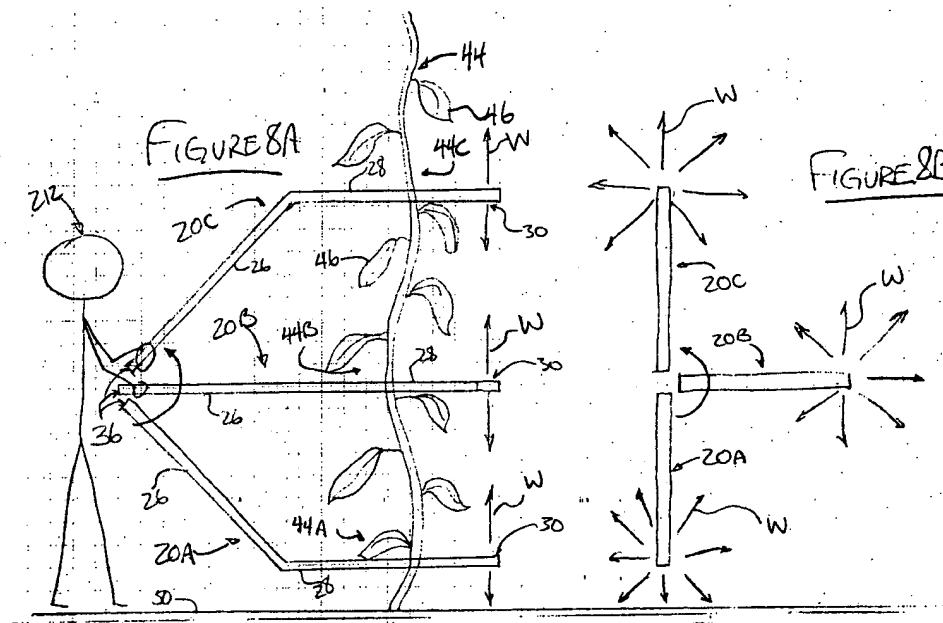
Figure 2, reproduced below, illustrates the operation of the device in a plant. As can be seen, when the device is inserted into a plant with the nozzle axis generally horizontal, water is simultaneously sprayed up and down, simultaneously impacting the bottom sides of some leaves and the top sides of other leaves and supplying a flow of water that not only dislodges insects but also carries such insects off of the plant. The sprayer is then advanced into the plant and retracted to more fully dislodge insects and clean the plant.<sup>3</sup>



<sup>3</sup> See *Id.*, at page 7, lines 4-31.

**C. Applicant teaches a convenient, quick and effective method for using the device to access and treat all areas of the plant without forcing the user to bend and contort**

Figures 8A and 8B, reproduced below, illustrate Applicant's unique method of using his sprayer. A user standing in one place using the device according to Applicant's method can treat an entire large and tall plant 44 without bending and contorting the user's body.<sup>4</sup>



As shown, during use the axis of the nozzle (30) is kept substantially horizontal. This is beneficial in that, especially in embodiments having a spray that is generally perpendicular to the nozzle axis, the circumferential spray W is directed up and down, and not toward the user. To treat the plant, the user preferably holds the sprayer so that the nozzle axis remains in its horizontal attitude, and repeatedly inserts and removes the nozzle in various areas of the plant.<sup>5</sup> Every time the user advances and retracts the nozzle, insects are dislodged from leaves and caught up in a water flow that carries them off of the plant. Additionally, insect residues are dislodged and removed by the circumferential water spray.

Figure 8B presents a view of Figure 8A taken from the user's direction. This figure shows how the elevation of the sprayer can easily be changed by rotating the sprayer about the handle, not by the user bending or squatting. For example, when the sprayer is in the low elevation 20A, the user simply rotates the handle about 90° to elevation 20B. Preferably, the

<sup>4</sup> See *Id.*, at page 14, lines 24-25.

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spray apparatus is manipulated so that the nozzle remains in a horizontal axis, and the circumferential sprays remain directed generally up and down and not directed towards the user. Thus, the user has effectively lifted the spray nozzle without bending.<sup>6</sup>

This same process can be repeated for substantially all areas of the plant. Although the illustrated embodiment shows a rotation of 90°, it is anticipated that whatever amount of rotation is necessary can be accomplished by the user. However, the unique structure of the device enables the user to rotate the device 90° and more without having to crouch, reach or otherwise change any “aim” of the nozzle. Since the nozzle sprays a circumferential spray, the sprayer behaves the same regardless of how the user has rotated the handle so long as the user maintains the nozzle axis in a generally horizontal attitude.<sup>7</sup>

#### **VI. ISSUES PRESENTED ON APPEAL**

The following issues are presented:

- A. Does the Examiner’s attempt to reject Claims 19-28, 33-35, 39 and 40 by combining U.S. Patent No. 3,737,105 to Arnold<sup>8</sup> with U.S. Patent No. Des425,603 to Guo<sup>9</sup>, and further with the Kimbrew-Walter Roses “Jet-All” brochure<sup>10</sup> satisfy the requirement that a suggestion be shown to combine the references?**
- B. Does the combination of Guo and Jet-All inherently teach or make obvious the methods of use of Claims 36-38, which are not expressly or impliedly taught in either cited reference?**
- C. Even if Arnold, Guo and Jet-All are combined, does the combination inherently teach or make obvious the methods of use of Claims 19-28, 33-35, 39 and 40, which are not expressly or impliedly taught in any of the cited references?**

#### **VII. GROUPING OF THE CLAIMS**

The Examiner has organized the claims in the present Application into two groups. The first group consists of Claims 36-38, which were rejected under 35 U.S.C. § 103(a) as unpatentable over Guo in view of Jet-All. The second group consists of Claims 19-28, 33-35,

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<sup>5</sup> See *Id.*, at page 14, line 14 – page 15, line 3.

<sup>6</sup> See *Id.*

<sup>7</sup> See *Id.*, at page 14, lines 27-30.

<sup>8</sup> Hereinafter referred to as “Arnold”.

<sup>9</sup> Hereinafter referred to as “Guo”.

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39, and 40, which were rejected in view of 35 U.S.C. § 103(a) as unpatentable over Arnold in view of Guo and Jet-All.

According to 37 C.F.R. § 1.192(c)(7), the Board of Patent Appeals and Interferences may “select a single claim” from each group and analyze the rejection for that group “on the basis of that claim alone” unless the applicant asserts that “the claims of the group do not stand or fall together” and the applicant explains why the individual claims of the group are separately patentable.<sup>11</sup>

Applicant believes that the claims in the groups selected by the Examiner do not stand or fall together; rather, each claim presents distinct issues concerning patentability. However, Applicant has decided not to present arguments as to the independent ground of patentability for each claim because this would unnecessarily complicate the issues on appeal. Thus, in accordance with the requirements of the C.F.R. and the M.P.E.P., Applicant will maintain the grouping set forth by the Examiner, but only for purposes of this appeal, and only with respect to the specific grounds of rejection raised by the Examiner in connection with the Arnold, Guo, and Jet-All references. This grouping is not intended to be, and should not be construed as, an admission or concession that the grouped claims are not patentably distinct. Applicant expressly reserves the right to assert in later proceedings the independent patentability of each claim over the prior art of record on this appeal and/or any other prior art.

### **VIII. ARGUMENT**

#### **A. Rejections Under 35 U.S.C. § 103(a)**

Under Section 103, the Examiner bears the burden of establishing a *prima facie* case of obviousness. An Examiner can satisfy this burden only by introducing prior art that discloses every element of the claimed invention with some objective teachings in the record that suggest arranging the prior art to produce the Applicant’s claimed invention.<sup>12</sup>

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<sup>10</sup> Hereinafter referred to as “Jet-All”.

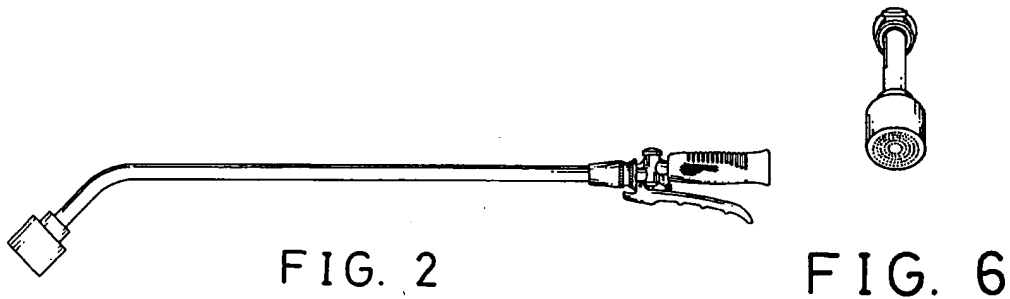
<sup>11</sup> See also M.P.E.P. § 1206.

<sup>12</sup> See M.P.E.P. § 2143 To establish *prima facie* obviousness, “the prior art reference (or references when combined) must teach or suggest all the claim limitations.”; *see also In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Bell*, 991 F.2d 781, 782, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993) (“A *prima facie* case of obviousness is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.”).

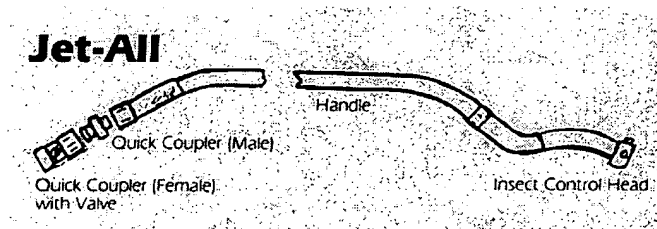
**B. Rejection of Claims 36-38 Under 35 U.S.C. § 103(a)**

The Examiner rejected Claims 36-38 under 35 U.S.C. § 103(a) as unpatentable over the Guo sprayer in view of the method of Jet-All.

The Guo reference is a design patent for a sprayer gun. Figures 2 and 6 of Guo, reproduced below, are representative of the Guo disclosure.



The Jet-All sprayer is described in a brochure. Portions of the brochure are reproduced below, including a diagram of the Jet-All and a photograph showing the Jet-All sprayer in use.



As illustrated in the brochure, the Jet-All sprayer includes a handle with an “insect control head” connected to the distal end of the handle. The head has three upwardly-directed jets disposed thereon and is curved “to permit spraying under the leaves of miniature roses as well as the taller varieties without spray back on the user.”<sup>13</sup> As shown in the photographs, the water spray from the jets is directed generally upwardly and away from the user. When the unit is low to the ground, the water spray is nearly horizontal. Presumably, the unit is angled upwardly to spray the “taller varieties” of roses; however, the jet of water will still be directed generally upwardly and away from the user.

**1. The combination of Guo and Jet-All does not teach the structure recited in the claims**

In the Office Action, the Examiner asserts that “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to apply the apparatus taught by Guo in a method of insect removal taught by ‘Jet-all’.”<sup>14</sup> Thus, the Examiner’s rejection is based only on the structure of Guo used according to the method taught by Jet-All, and none of the structure of Jet-All.

When characterizing the Guo sprayer, the Examiner states that the nozzle is “adapted to direct water flow outwardly around the circumference of the nozzle axis.”<sup>15</sup> However, with reference again to Figures 2 and 6 of Guo, which are reproduced above, the Guo nozzle has water holes formed through its face, which appears to be planar and perpendicular to an axis of the nozzle. Thus, it appears that the Guo nozzle directs several discrete streams of water generally along the nozzle axis. In contrast, Applicant’s Claim 36 requires, *inter alia*, a “nozzle configured to direct a flow of water outwardly generally around a longitudinal axis of the nozzle portion.” Guo does not teach this limitation.

The Examiner also stretches the disclosure of the Jet-All brochure. For example, the Examiner states, “Jet-All teaches . . . the longitudinal axis of the nozzle is generally horizontally disposed at a first elevation and advancing and retracting the nozzle generally horizontally....”<sup>16</sup> With reference again to the above figures reproduced from the Jet-All brochure, the Jet-All

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<sup>13</sup> Jet-All brochure.

<sup>14</sup> Office Action mailed 9/24/04, Page 3.

<sup>15</sup> *Id.*, Page 2.

<sup>16</sup> *Id.*, Page 2.

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brochure shows the device being used such that an axis of the nozzle is at a substantial angle, clearly more than 45°, from horizontal. Perhaps Jet-All is capable of being used at other angles, but it is always shown in an attitude in which the nozzles are oriented to direct spray upwardly from the nozzle and away from the user. In fact, as apparent from the Jet-All sketch, if the Jet-All device is to be truly oriented so that the nozzle axis is generally horizontal, the handle of the device will necessarily be lower than the nozzle when the nozzle sprays upwardly.

Applicant asserts that the Jet-All brochure does not teach what the Examiner says it teaches. Accordingly, the method of Jet-All does not teach at least the limitation “while maintaining the nozzle axis in a generally horizontal attitude, repeatedly advancing and retracting the nozzle into and out of the interior portion of the plant at a plurality of locations in the first region so that water flow is directed onto undersides of interior leaves of the plant and top sides of interior leaves of the plant” of Claim 36.

Since the references do not disclose at least these claim limitations, Applicant requests that the rejection of these claims be reversed.

**2. None of the cited references explicitly teaches the claimed method, and the cited combination does not teach or suggest the claimed method**

Notwithstanding the above, the Examiner contends that Guo “contains all of the structural limitations of applicant’s claim language and therefore has the capability of performing the method steps presented by ‘Jet-All’.” The Examiner further states:

The intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.<sup>17</sup>

The Examiner has erroneously stated and applied the patent law. 35 U.S.C. § 101 states “Whoever invents or discovers any new and useful process, machine . . . may obtain a patent therefor . . . .” The patent statute further clarifies that “The term ‘process’ means process, art or method, and *includes a new use of a known process, machine, manufacture, composition of*

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<sup>17</sup> *Id.*, Page 3.

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matter, or material.”<sup>18</sup> Further, the M.P.E.P. clarifies, “New and unobvious uses of old structures and compositions may be patentable.”<sup>19</sup>

The claimed invention is structurally different than the cited art; however, even if it were structurally similar to the prior art, Applicant contends that the claimed invention would still be patentable over the cited art. This is because it uses such structure in a manner never before recognized, taught or suggested.

For example, Claim 36 requires, *inter alia*, “rotating the apparatus about the handle at least about 90° to change the elevation of the nozzle axis from a position in the first region to a position in the second region without substantially changing its generally horizontal attitude.” The Examiner admits that neither Guo nor Jet-All alone explicitly or impliedly teaches this method. In fact, it is plain from the Jet-All brochure that rotation of the sprayer about the handle to change the elevation is never contemplated. Nevertheless, the Examiner contends that the combination of Guo and Jet-All “inherently” teaches this claim limitation.

**3. The Examiner has incorrectly applied the doctrine of inherency and has not satisfied her burden with regard to inherency**

The Examiner specifically states “Guo as modified inherently teaches rotating the apparatus at least about 90° so that the longitudinal axis of the nozzle is moved to a second elevation but remains generally horizontally disposed during rotation and advancing and attracting the nozzle generally horizontally at the second elevation to efficiently and effectively treat all size plants.”<sup>20</sup> The Examiner has not provided factual evidence to satisfy this contention of inherency. Moreover, the Examiner has incorrectly applied the principle of inherency.

**a. Inherency applies only to the teachings of a single prior art reference, but the Examiner has applied inherency to a combination of references.**

The Examiner does not contend that the Jet-All reference inherently teaches the claimed method, nor does the Examiner contend that the Guo reference inherently teaches the method. Rather the Examiner contends that a combination of Guo and Jet-All inherently teaches the method. Although Applicant disagrees with the Examiner that the combination inherently

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<sup>18</sup> 35 U.S.C. § 100(b)(emphasis added).

<sup>19</sup> M.P.E.P. § 2112.02.

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teaches the claimed method, Applicant first notes that the Examiner has misapplied the principle of inherency.

The Federal Circuit has established that there is no inherent disclosure when a prior art reference must be modified or reconfigured in a special way to produce a missing limitation.<sup>21</sup> Combining a prior art reference with another reference and then asserting that the combination has inherent properties is substantially the same as modifying or reconfiguring either one of the references in a special way to produce a missing limitation. Accordingly, the Examiner's assertion that the Guo/Jet-All combination has inherent properties that are not inherent to either of the references taken alone is not legally supported.

**b. The claim limitations are not necessarily present in the cited combination of references, and are thus not "inherent" to the combination**

As just discussed, it is inappropriate for the Examiner to assert inherency of a combination of references. However, in this case, even if the combined disclosures of Guo and Jet-All were considered, they still would not satisfy the requirements for inherency, and the Examiner has not presented any factual evidence to support her contention of inherency.

Inherency "may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances *is not sufficient*."<sup>22</sup> Further, for a claim limitation to be inherently disclosed by a reference, "it must be necessarily present and a person of ordinary skill in the art would recognize its presence."<sup>23</sup>

Further, inherency does not even exist when a missing claim element is very likely, though not necessarily, present in a prior art reference. For example in *Glaxo, Inc. v. Novopharm, Ltd.*,<sup>24</sup> an infringer unsuccessfully asserted that a patent was invalid by inherent anticipation because the claimed chemical compound was the undisclosed product of a process

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<sup>20</sup> Office Action dated 9/24/04, page 3 (emphasis added).

<sup>21</sup> See *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1052 (Fed. Cir. 1994) (no inherency found when prior art patent disclosed missing limitation if set to a particular water pressure not explicitly disclosed in the prior art patent); *In re Rijckaert*, 28 U.S.P.Q. 2d 1955, 1956 (Fed. Cir. 1993) (no inherency found when prior art reference disclosed limitation if certain settings were assumed).

<sup>22</sup> *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) (emphasis added).

<sup>23</sup> *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 USPQ2d 1917, 1923 (Fed. Cir. 2002).

described in a prior art reference. An expert witness performed the prior art process 13 times, each time producing the claimed invention. When performed by others on two occasions, however, the process produced a different compound. The court therefore found that the prior art process could yield either the claimed compound or another compound, and hence the claimed compound was not *necessarily present* in the prior art reference.<sup>25</sup> Thus, *there is no inherent disclosure when any possible interpretation of the reference would not include the missing element.*

The M.P.E.P. states the following concerning inherency:

To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it *would be so recognized* by persons of ordinary skill.<sup>26</sup>

In light of the above discussion, it is clear that for every contention of “inherency,” the Examiner must establish that the method limitation (1) is *necessarily present* in the Guo/Jet-All combination, and (2) that an ordinary person would *recognize* the claimed *method*. The Examiner has not presented facts to establish these points and thus has not satisfied her burden.

One of ordinary skill in the art would not necessarily recognize or wish to perform the claimed method. Even if Guo and Jet-All were combined, there is no motivation for a user to perform the claimed method steps unless taught to do so by some other reference. In fact, *Applicant's specification is the only reference teaching the motivation to rotate* a specially-constructed spraying device in order to change its elevation. “To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein *that which only the inventor taught is used against its teacher.*”<sup>27</sup>

Not only would an ordinary person not recognize Applicant's claimed method, Applicant has evidence that users find the method “unusual” and can have difficulty performing the method even after having been explicitly taught how to perform it. Applicant's product was tested by

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<sup>24</sup> 52 F.3d 1043 (Fed. Cir. 1995).

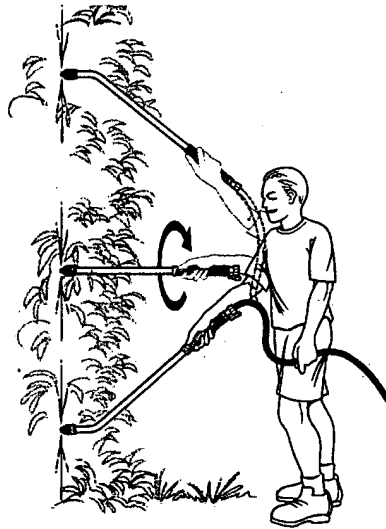
<sup>25</sup> See *Glaxo*, 52 F.3d at 1047-48.

<sup>26</sup> M.P.E.P. § 2112 (emphasis added).

<sup>27</sup> *W.L. Gore Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 312-313 (Fed. Cir. 1984) (emphasis added).

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members of the National Home Gardening Club.<sup>28</sup> Applicant's instructions, reproduced below, were provided to testers along with Applicant's product. Though many testers immediately grasped the concept, some testers had trouble learning the method.



Narratives from two of the testers are reproduced below.<sup>29</sup>

This is an excellent special-purpose tool that gardeners need and will use. The unusual spray pattern requires a bit of practice (or a raincoat), but it is just what is needed for blasting bugs.<sup>30</sup>

I used the Bug Blaster™ to rid my Lilies of aphids and ants that tend them. Used it several times to keep both under control. First time I used Bug Blaster™ I sprayed myself till I got used to rotate as I raised the wand.<sup>31</sup>

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<sup>28</sup> Applicant submitted a Declaration on November 8, 2003 including exhibits showing instructional materials that Applicant includes with his device and also including information from a test of Applicant's product that was performed by the National Home Gardening Club (the "Club"). As part of the Test Program, Applicant submitted his product, which embodies the claims, to several Club members for testing. Applicant included explicit graphical instructions with his product; however, some gardeners still had trouble learning how to properly perform the method. The Declaration and exhibits were submitted to the Examiner on November 26, 2003. The 2003 Declaration and exhibits are included in the Appendix.

Applicant paid no money to the Club or to evaluating Club members for participation in the Test Program. A Supplemental Declaration to that effect has been filed under separate cover, and a copy of the Supplemental Declaration is included in the Appendix.

<sup>29</sup> Other narratives are reproduced later in this brief.

<sup>30</sup> Declaration of Patrick O'Donnell, November 8, 2003, Exhibit B, Member Number: 80722195 (emphasis added).

<sup>31</sup> *Id.*, Member Number: 70052476 (emphasis added).

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These statements show that people of skill in the art (here, members of the National Home Gardening Club) find Applicant's claimed method counterintuitive, and require practice to get used to the method even after being explicitly taught how to perform it.

The Examiner has not, and indeed cannot, argue that any one of the cited references taken alone inherently discloses the claimed method. For example, the Jet-All reference does not necessarily teach this method, nor is there any evidence that a person of skill in the art would recognize the method from seeing the Jet-All device. The same goes for the Guo/Jet-All combination.

To justify her contentions concerning inherency, the Examiner states that "it is human nature to orient a device in a desired manner to fit the space constraints of the situation." The Examiner goes on to state, "The method steps of the instants [sic] claims are readily apparent during the operation of the device of Arnold and Guo to the application area taught by 'Jet-All'."<sup>32</sup> These statements appear to be factual assertions, of which the Examiner appears to be taking official notice. In Applicant's Request for Reconsideration filed March 24, 2005, Applicant specifically traversed these "factual findings" and requested that the Examiner provide documentary evidence to support each fact-finding statement. Since the Examiner has not provided any documentary evidence to support these statements, these statements cannot be used to maintain the rejection.<sup>33</sup>

As discussed above, an assertion of "inherency" requires specific factual support showing that the method limitation is necessarily present in the prior art and that it would be recognized. The Examiner has presented no factual support, and has not satisfied her burden. However, Applicant has presented factual evidence that people find the method "unusual" and have difficulty learning the method even after having been explicitly taught.

**4. The Examiner has not established a *prima facie* case of obviousness.**

An assertion of "obviousness" requires that the references teach all claim limitations. Since the Examiner has not presented facts sufficient to support her inherency arguments, and since the cited references do not teach all of the claim limitations, Applicant respectfully contends that the Examiner's rejection of these claims should be reversed.

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<sup>32</sup> Office Action dated 9/24/04, page 8.

<sup>33</sup> See M.P.E.P. Section 2144.03(c).

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**C. Rejection of Claims 19-28, 33-35, 39 and 40 Under 35 U.S.C. § 103(a)**

The Examiner rejected Claims 19-28, 33-35, 39 and 40 under 35 U.S.C. § 103(a) as unpatentable over Arnold in combination with Guo and Jet-All. Applicant contends that not only is there no motivation to combine these references, but the references, even if combined, do not teach or suggest all of the limitations of the claims.

**1. There Is No Motivation To Combine The Cited References**

The Federal Circuit has made clear that “[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.”<sup>34</sup> Further, references that teach away from one another cannot be properly combined to support an obviousness rejection.<sup>35</sup>

Evidence of a suggestion to combine prior art references may flow from the references themselves, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. However, such suggestion must be “clear and particular.”<sup>36</sup> In *In re Dembiczak*,<sup>37</sup> the applicant claimed an orange plastic trash bag with a jack-o-lantern face printed thereon. The application was rejected as obvious in light of the combination of a reference showing a plastic trash bag and a reference describing a method of making a “paper bag pumpkin”. The Federal Circuit reversed the finding of obviousness and held that there was no suggestion to combine the references. Even though the references “described all of the limitations of the pending claims,”<sup>38</sup> no suggestion, teaching, or motivation to combine the references was particularly identified. Thus, the combination was improper.

**2. There is no motivation to combine Guo with Arnold**

Arnold discloses a spray nozzle for producing a pair of radially-directed sprays. As discussed above, Guo teaches a handheld sprayer with a nozzle having openings that appear to direct several discrete streams of water in a direction generally along the axis of the nozzle. The Examiner states, “It would have been obvious to one of ordinary skill in the art to modify the

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<sup>34</sup> *In re Napier*, 55 F.3d 610, 613, 34 U.S.P.Q.2d 1782,1784 (Fed. Cir. 1995). See, e.g., *In re Stencel*, 828 F.2d 751, 755 (Fed. Cir. 1987).

<sup>35</sup> See *Winner Int’l Royalty Corp. v Ching-rong Wang*, 202 F.3d 1340, 1349-1350 (Fed. Cir. 2000).

<sup>36</sup> *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999).

<sup>37</sup> *id.*

<sup>38</sup> *Id.* at 1000.

teachings of Arnold with the teachings of Guo to provide a handle for the ergonomic advantage illustrated by Guo. Since it is old and notoriously well-known to place extensions/handles on nozzles to reach higher elevations or into narrow areas.”<sup>39</sup> This vague and uncertain “motivation” was drummed up by the Examiner, and certainly is not the type of “clear and particular” teaching required by the law. The Guo reference is a design patent, and thus includes no discussion of the use of the device. Arnold, on the other hand, expressly teaches spray that is directed radially. Arnold discloses a use of its nozzle as “a gas washing apparatus,” and also indicates that “it is also adapted to various other uses as will be apparent to a person skilled in the art.”<sup>40</sup> However, Arnold contemplates no reason to dispose its nozzle on a spray apparatus having the features of Guo.

Furthermore, the Guo and Arnold references would tend to teach away from one another. Specifically, the Guo nozzle and the Arnold nozzle spray water in perpendicularly different directions. Although Guo does not explicitly describe its purpose, the replacement of Guo’s nozzle with the Arnold nozzle would materially change the operation of the Guo reference because the Guo sprayer would no longer direct water in the direction the nozzle is pointed. This likely would be unsuitable for Guo’s intended purpose.

Since there is no “clear and particular” suggestion in either Guo or Arnold to combine these references, these references are not properly combined.

**3. The Guo/Arnold combination, or even the Arnold nozzle taken alone, is not properly combined with the Jet-All method**

As discussed above, the Jet-All brochure depicts the Jet-All sprayer directing a spray away from the user. The Jet-All sprays appear to be directed substantially perpendicular and upward relative to the nozzle axis, and the Jet-All is never shown as being used with the nozzle axis substantially horizontal. Instead, the nozzle axis is shown as tilted forward so that the spray is directed away from the user. This is not surprising, as one of the important aspects of the Jet-All device is that it allows spraying under leaves “without spray back on the user.”<sup>41</sup> If a user were to use a Guo/Arnold combination device, or even a Jet-All device with an Arnold nozzle, in accordance with the method as shown by the Jet-All brochure, the spray from the underside of

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<sup>39</sup> Office Action mailed 9/24/04, Page 4.

<sup>40</sup> Arnold, Col. 2, ll. 45-52.

the nozzle would be directed towards the user. The Jet-All brochure expressly teaches that this is undesirable. Thus, these references teach against combination and are not properly combined.

**4. None of the cited references explicitly teach the claimed method, and the cited combination does not “necessarily” teach the claimed method**

Claim 19 requires, *inter alia*, “rotating the apparatus at least about 90° so that the longitudinal axis of the nozzle is moved to a second elevation that remains generally horizontally disposed during rotations; and advancing and retracting the nozzle generally horizontally at the second elevation.” The Examiner states that Arnold as modified by Jet-All “inherently teaches rotating the apparatus at least about 90° so that the longitudinal axis of the nozzle is moved to a second elevation but remains generally horizontally disposed during rotation and advancing and retracting the nozzle generally horizontally at the second elevation to efficiently and effectively treat all size plants.”<sup>42</sup>

The Examiner’s contentions regarding inherency are substantially the same as those in connection with Claims 36 – 38 as discussed above. As such, this assertion of inherency fails for the same reasons set forth above in connection with Claims 36 - 38.

**5. The Examiner has not established a *prima facie* case of obviousness.**

Combination of references for an obviousness rejection requires a “clear and particular” teaching in the references suggesting such combination. Further, an assertion of “obviousness” requires that the references teach all claim limitations. Since the Examiner has not identified a motivation to combine the Arnold, Guo and Jet-All references, since the Examiner has not presented facts sufficient to support her inherency arguments, and since the cited references do not teach all of the claim limitations, Applicant respectfully contends that the Examiner’s rejection of these claims should be reversed.

**D. Evidence of long-felt, unsolved need rebuts any *prima facie* evidence of obviousness**

Even if the Examiner has established a *prima facie* case of obviousness, that showing has been rebutted because Applicant’s invention satisfies a long-felt need not solved by others.

Secondary considerations of non-obviousness, such as long-felt but unsolved need, must always be considered in determining whether the claimed design would have been obvious over

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<sup>41</sup> Jet-All Brochure,

<sup>42</sup> Office Action dated 9/24/04, page 5.

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the prior art.<sup>43</sup> Indeed, such evidence is often the most significant and persuasive evidence on the issue of non-obviousness. As explained by the U.S. Court of Appeals for the Federal Circuit:

[E]vidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decision maker remains in doubt after reviewing the art.<sup>44</sup>

According to the M.P.E.P., establishing long-felt need depends on the following factors:

First, the need must have been a persistent one that was recognized by those of ordinary skill in the art. . . .

Second, the long-felt need must not have been satisfied by another before the invention by applicant. . . .

Third, the invention must in fact satisfy the long-felt need.<sup>45</sup>

Applicant's claimed invention satisfies these factors. This is further evidence that Applicant's claimed invention is nonobvious.

During prosecution of the application, Applicant submitted a Declaration in which the Applicant describes a Test Program with the National Home Gardening Club in which Applicant's product embodying the claimed invention (marketed as "The Bug Blaster™") was evaluated by Club Members. Since the results of the Test Program evaluations were positive, The Bug Blaster™ became a recommended product of the National Home Gardening Club, and the Test Program results were published in the Club's periodical, "Gardening How-to".<sup>46</sup>

Pursuant to Exhibit B of the Declaration, several evaluation forms of Club Members from the Test Program are attached. These forms illustrate that there has long been a recognized need for easy removal of insects from plants using water without pesticide; others have tried to satisfy this need, but have failed to come up with an easy and effective way to do it; and The Bug Blaster™ satisfies this need.

The following statements are excerpts from the forms:

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<sup>43</sup> M.P.E.P. § 2141.

<sup>44</sup> *Simmons Fastener Corp. v. Illinois Tool Works, Inc.*, 739 F.2d 1573, 1575, 222 USPQ 744, 745 (Fed. Cir. 1984).

<sup>45</sup> M.P.E.P. §716.04 (emphasis added).

<sup>46</sup> The Declaration and Exhibits, which were submitted to the Patent Office in 2003, are included in the Appendix.

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Wow! This is great! Now I can blast those bad bugs on the back of the leaves without going through all the contortions trying to reach them with an ordinary stream nozzle. Sure makes it easier on this old back.<sup>47</sup>

The Blaster is easy to use all instructions advise spray bottom of the leaves. This is so easy with the Bug Blaster and so effective. I have 21 rose bushes, using Bug Blaster it only took a few moments per bush so easy.<sup>48</sup>

The Bug Blaster is the best! I can blast away the garden pests without harming the plants and without using pesticides, very effective. I would recommend it to all my fellow club members.<sup>49</sup>

The Bug Blaster is another great tool for my Garden and Orchard. We live in a very dusty place and since the water spray goes under and over the plants and small trees, I have a healthier and cleaner Garden. Thank you for the Bug Blaster.<sup>50</sup>

It Really works. I had such trouble with aphids before using this. Now no pesticide needed.<sup>51</sup>

Would definitely recommend. Used on my crepe myrtle trees with aphid problem. Didn't need to use any chemicals and it worked.<sup>52</sup>

I have a 100% organic garden which prospers, but it always seems the aphids will zero in on one or two areas. The regular hose end sprayer doesn't quite do the trick, but this blaster really sent those aphids flying. (The birds had a feast too!).<sup>53</sup>

As soon as I received the Bug Blaster, I put it to work. I had been fighting an infiltration of aphids on my cucumber plants. I used the Bug Blaster on the cucumber plants a few times and my aphid problem is gone. The Bug Blaster is very easy to use and doesn't damage the foliage and no chemicals.<sup>54</sup>

Bug Blaster works far better than using the garden hose method alone — the water jet design really does a great job in the veggie garden and the rose garden where aphids

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<sup>47</sup> Declaration of Patrick O'Donnell, November 8, 2003, Exhibit B, Member Number: 70057991 (emphasis added).

<sup>48</sup> *Id.*, Member Number: 80827711.

<sup>49</sup> *Id.*, Member Number: 70015237.

<sup>50</sup> *Id.*, Member Number: 70043504 (emphasis added).

<sup>51</sup> *Id.*, Member Number: 80748304 (emphasis in original).

<sup>52</sup> *Id.*, Member Number: 81141698 (emphasis in original).

<sup>53</sup> *Id.*, Member Number: 80037362 (emphasis added).

<sup>54</sup> *Id.*, Member Number: 70001955.

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attacked this year's cucumbers and half of my prize roses — I was very happy to see Bug Blaster get whiteflies out of the grape arbor!!<sup>55</sup>

My area (Southern Calif.) has a heavy infestation of white flies; anybody who has to deal with this curse, knows how difficult it is to get rid of them. I have now been using my "Bug Blaster" on my 8 ft. tall, heavily infested hybiscus, for fifty consecutive days and . . . almost neary a pesky white fly to be found!! Thank you, Bug Blaster!<sup>56</sup>

This is an excellent alternative to chemical means of getting rid of bugs, and cleans well to. I've hesitated to using chemicals so have put up with the bugs. Glad now to have an effective method of being rid of them.<sup>57</sup>

I've had a bad whitefly problem this summer and tried safer soap, horticultural oil, and this product. This was by far the funnest and cleanest and least toxic, and worked as well as the other products.<sup>58</sup>

Applicant contends that it is clear from these statements that a need for a reliable way to remove insects from plants without relying on pesticides was well recognized before Applicant's invention. Further, attempts to solve this need have been made, including spraying plants with a hose or ordinary nozzle, but these attempts have been unsatisfactory, being too difficult, time-consuming, and ineffective. Importantly, hose end sprayers and stream nozzles are substantially the same as the Jet-All sprayer, which directs streams of water only in an upward-and-away-from-the-user direction. Still further, the common theme of the evaluators is to praise The Bug Blaster™ because "It works!"

Applicant contends that the above evidence clearly satisfies the requirements to show that the claimed invention satisfies a long-felt, unsolved need. Specifically, the Test Program evaluations establish that 1) there has long been a recognized need for removing insects from plants without using pesticides; 2) others have tried to address this need, but without success; and 3) Applicant's claimed invention works for its intended purpose, and satisfies the long-felt, unsolved need. Since this is evidence of nonobviousness, Applicant has rebutted any *prima facie* case of obviousness and provides further reasons why the rejection under 35 U.S.C. § 103 should be reversed.

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<sup>55</sup> *Id.*, Member Number: 70007469 (emphasis added).

<sup>56</sup> *Id.*, Member Number: 70004972.

<sup>57</sup> *Id.*, Member Number: 70036220.

<sup>58</sup> *Id.*, Member Number: 70098546.

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### **IX. CONCLUSION**

Nothing in the prior art, individually or in combination, discloses, teaches, or suggests the invention recited by the claims on appeal. Further, the prior art references are not properly combined. Still further, Applicant's invention satisfies a long-felt, but unsolved need. Accordingly, Applicant respectfully requests that the Examiner's rejections be reversed and that Claims 19-28 and 33-40 be passed to issuance.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: \_\_\_\_\_

6/29/05

By: \_\_\_\_\_



Glen L. Nuttall  
Registration No. 46,188  
Attorney of Record  
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## **X. APPENDIX**

**Claims in Application Serial No. 09/557,234**

1-18. Cancelled

19. A method for removing insects from and cleaning a plant having leaves, the method comprising:

providing a hand held spraying apparatus having a handle, an elongate body portion, and a nozzle portion at a distal end of the body portion, the nozzle portion having a longitudinal axis and being adapted to direct a generally continuous water flow in a direction outwardly from the axis around substantially the entire circumference of the nozzle axis, the apparatus configured so that moving the handle correspondingly moves the nozzle portion;

providing a source of water under pressure;

placing the spraying apparatus into communication with the source of water under pressure;

positioning the nozzle adjacent an underside of a plant leaf so that a portion of the water directed by the nozzle impacts the leaf underside and the longitudinal axis of the nozzle is generally horizontally disposed at a first elevation;

advancing and retracting the nozzle generally horizontally so that a flow of water impacts the leaf underside along its length;

rotating the apparatus at least about 90° so that the longitudinal axis of the nozzle is moved to a second elevation but remains generally horizontally disposed during rotation; and

advancing and retracting the nozzle generally horizontally at the second elevation.

20. The method of Claim 19, wherein the elongate body portion is substantially straight.

21. The method of Claim 20, wherein the nozzle is adapted to direct a flow of water in a substantially vertical plane.

22. The method of Claim 21, wherein the substantially vertical plane is substantially perpendicular to the nozzle portion and comprising the step of holding the elongate body in a substantially horizontal attitude.

23. The method of Claim 22, wherein the handle includes a bend point and comprising the step of adjusting the elevation of the body portion by rotating the handle about a proximal end of the handle.

24. The method of Claim 19, additionally comprising advancing and retracting the apparatus into and out of the plant at a plurality of locations so that the flow of water directed by the nozzle simultaneously impacts the top side of a first plant leaf along at least a portion of its length and the underside of a second plant leaf along at least a portion of its length.

25. The method of Claim 19, wherein the nozzle is adapted to create a substantially planar and contiguous wall of water around the circumference of the nozzle.

26. The method of Claim 25, wherein the nozzle is adapted to create two or more substantially planar and contiguous walls of water around the circumference of the nozzle, the walls of water being spaced apart from each other.

27. The method of Claim 25, additionally comprising advancing and retracting the nozzle between leaves of the plant so that the portions of the wall of water simultaneously impact undersides of leaves generally above the nozzle, top sides of leaves generally below the nozzle, and any matter that may be between the leaves of the plant.

28. The method of Claim 27, additionally comprising advancing and retracting the nozzle between leaves of the plant at a plurality of locations.

29-32. Cancelled

33. The method of Claim 23, comprising rotating the handle about an axis of rotation generally parallel to the longitudinal axis of the nozzle.

34. The method of Claim 19, wherein water flow is simultaneously directed upwardly and downwardly.

35. The method of Claim 19, wherein the elongate body portion and the nozzle portion are substantially straight and have substantially the same longitudinal axis.

36. A method of removing insects from and cleaning an interior portion of a leafy plant having a first region and a second region that are disposed at different vertical elevations, comprising:

providing a hand held spraying apparatus having a handle, an elongate body having a length of at least about one foot, and a nozzle at a distal end of the elongate body, the nozzle configured to direct a flow of water outwardly generally around a longitudinal axis of the nozzle portion, the nozzle portion fixedly connected to the handle and being configured to move with the handle;

placing the spraying apparatus into communication with a source of water under pressure;

while maintaining the nozzle axis in a generally horizontal attitude, repeatedly advancing and retracting the nozzle into and out of the interior portion of the plant at a plurality of locations in the first region so that water flow is directed onto undersides of interior leaves of the plant and top sides of interior leaves of the plant;

rotating the apparatus about the handle at least about 90° to change the elevation of the nozzle axis from a position in the first region to a position in the second region without substantially changing its generally horizontal attitude; and

advancing and retracting the nozzle into and out of the interior portion of the plant at a plurality of locations in the second region.

37. The method of Claim 36 additionally comprising holding the elongate body at a generally horizontal attitude while advancing and retracting the nozzle.

38. The method of Claim 37, wherein the elongate body is at least 18 inches long.

39. The method of Claim 23, wherein the handle is bent about 30-60° at the bend point.

40. The method of Claim 19, comprising rotating the apparatus about 90° while keeping the longitudinal axis of the nozzle generally horizontally disposed during rotation, and advancing and retracting the nozzle generally horizontally into and out of the plant a plurality of times while rotating the apparatus.

# Jet-All

The Jet-All is a necessity for the serious rose grower and the Organic gardener.

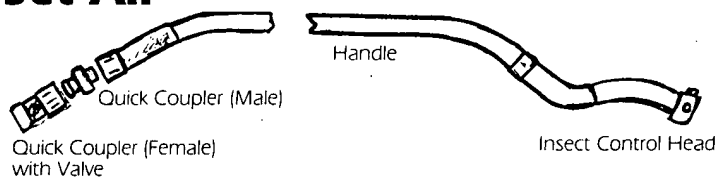
The Jet-All has a head designed to aid rose growers in the control of insects and spider mites. This unit has three jets positioned on a curved head to permit spraying under the leaves of



miniature roses as well as the taller varieties without spray back on the user. The handle has a control valve to establish the desired pressure and a quick coupler for ease of use.



## Jet-All



Use handy order blank on reverse side today!

## Kimbrew-Walter Roses

Route 2, Box 172 • Grand Saline, Texas 75140 • (903) 829-2968

# Jet-All

**Kimbrew-Walter Roses**

Route 2, Box 172

Grand Saline, Texas 75140

(903) 829-2968

Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Please send \_\_\_\_\_ Jet-All units @ \$29.95 each (Plus \$5.00 shipping. If in Texas,  
add state sales tax of 6¼%.) Check or money order accepted

# Jet-All

**Kimbrew-Walter Roses**

Route 2, Box 172

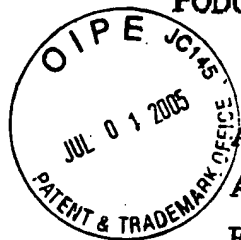
Grand Saline, Texas 75140

(903) 829-2968

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicant : Patrick J. O'Donnell  
Appl. No. : 09/557,234  
Filed : April 24, 2000  
For : METHOD AND APPARATUS  
FOR DISLODGING INSECTS  
FROM PLANTS  
Examiner : A. Valenti  
Group Art Unit : 3643

DECLARATION OF PATRICK O'DONNELL  
UNDER 37 C.F.R. § 1.132

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I, Patrick O'Donnell, hereby declare that:

1. I believe that I am the original and sole inventor of the subject matter described and claimed in the above-captioned application.
2. I currently market a method and apparatus for dislodging insects from plants under the trade name "THE BUG BLASTER™". The Bug Blaster™ method and apparatus provides a hand held spraying apparatus having a handle, an elongate body portion, and a nozzle portion at a distal end of the body portion. The nozzle portion has a longitudinal axis and is adapted to direct water flow outwardly around the circumference of the nozzle axis. The apparatus is configured so that moving the handle correspondingly moves the nozzle portion. Users are taught to connect the spraying apparatus to a source of pressurized water, position the nozzle adjacent an underside of a plant leaf so that a portion of the water directed by the nozzle impacts the leaf underside and the longitudinal axis of the nozzle is generally horizontally disposed at a first elevation, and advancing and retracting the nozzle generally horizontally so that a flow of water impacts the leaf underside along its length. Users are further taught to rotate the apparatus at least about 90° so

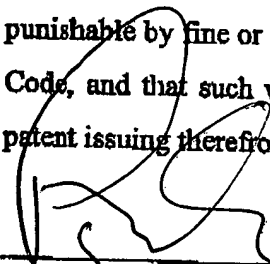
Appl. No. : 09/557,234  
Filed : April 24, 2000

that the longitudinal axis of the nozzle is moved to a second elevation but remains generally horizontally disposed during rotation, and advance and retract the nozzle generally horizontally at the second elevation. A copy of instructional materials showing The Bug Blaster™ method and apparatus is attached as Exhibit A.

3. I recently enrolled in a Test Program with the National Gardening Club to test The Bug Blaster™. On information and belief, the National Gardening Club includes Members that are highly motivated gardeners. As part of the Test Program, I supplied several Club Members with The Bug Blaster™ method and apparatus. The Club Members used and evaluated The Bug Blaster™. Copies of several evaluation forms are attached hereto as Exhibit B.

4. I submitted to the Test Program with the understanding that if the Club Member evaluations were positive, The Bug Blaster™ method and apparatus would become a recommended product of The National Gardening Club, and the Test Program results would be published in the Club's periodical, "Gardening How-to". In fact, the Test Program results were published in the March/April 2003 issue of "Gardening How-to" (copy attached as Exhibit C), and The Bug Blaster™ has become a recommended product of the Club as a result of the Test Program.

5. I declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the application or patent issuing therefrom.

  
Patrick O'Donnell

Date: 11-8-03

Patent Pending Method and Nozzle



360 Degree Wall of Water

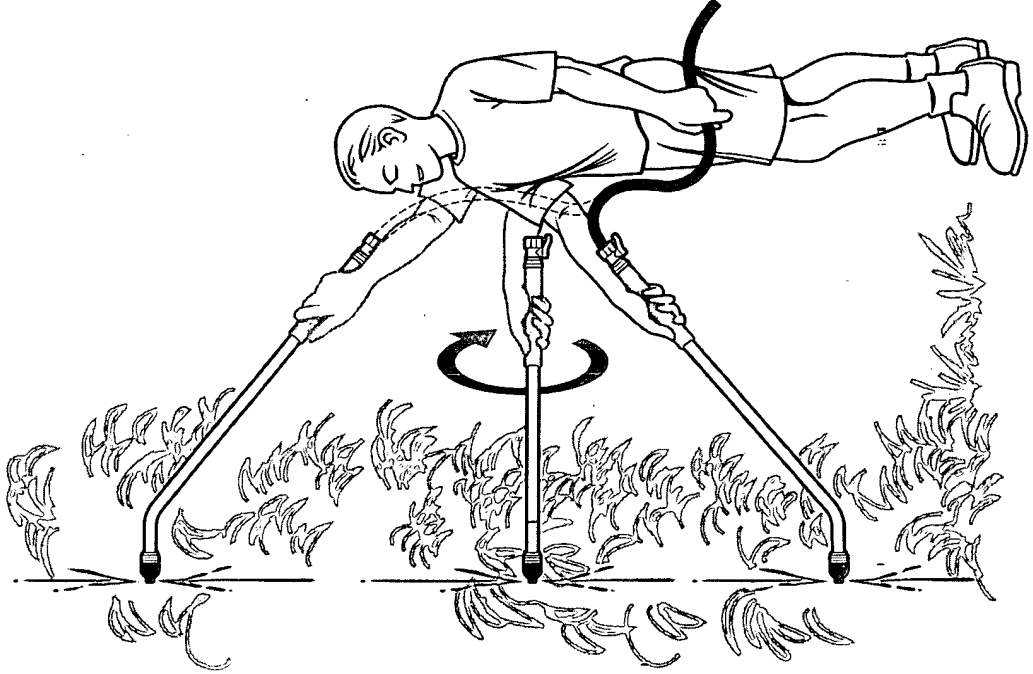


High Quality Ease of Use

The Bug Blaster is 100% environmentally safe and user-friendly. For those who refuse to use pesticides because they present a potential risk to children, pets and even to the plants they are supposedly protecting, The Bug Blaster offers gardeners an inexpensive option.

"After only one application, the Bug Blaster devastates the pests life cycle from egg to adult," explains Bug Blaster inventor Patrick O'Donnell, a licensed landscape contractor. "With only a few additional treatments, plants regain complete health," he adds.

The key to the The Bug Blaster's superior performance to any other spraying tool is its ability to work at the surface and into the center of your plants at any height hitting the underside of the leaves.



To reach over-head areas simply rotate & lift from the ground up

100% Environmentally Safe Insect Control



BEFORE

...Fruit So Clean...

AFTER

...You Can Eat Right Off the Tree!

For delicate plants, restrict the flow; for hardy plants or heavy infestation, just blast away! The Bug Blaster will annihilate only soft-bodied bugs. Strong environmentally helpful bugs such as ladybugs remain unharmed.

Gardeners can maintain attractive yards and healthy gardens while solving their whitefly problem. The Bug Blaster also works equally well on aphids, mealy bugs, spider mites and more. It also rejuvenates and cleans both indoor and outdoor plants of sooty mold, dust, dirt, spider webs and old or unhealthy leaves which interfere with photosynthesis.

Just wave the Bug Blaster wand and create magic in your garden!



**APHIDS**

**WHITEFLIES**

**MEALY BUGS**

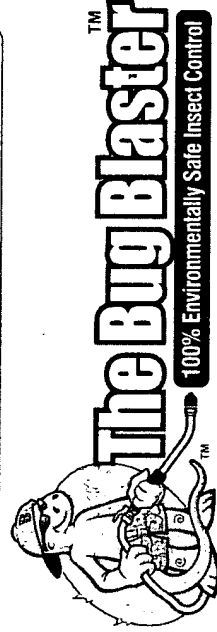
**According to Sunset Western Garden Book**, aphids damage a wide variety of plants by piercing the leaves and stems, then sucking out plant juices. Mealy bugs and whiteflies attack both indoor and outdoor plants, and are troublesome in warm winter areas. They suck plant juices, causing stunting, and in some cases kill the plant.

**Additionally, a recent study** by the Agricultural Experiment Station at the University of California Riverside, comparing several pesticides side by side indicated that the use of a strong stream of water directed to the undersides of infested leaves (synergizing) "...performed as well or better than chemical treatments." The study recommends syringing at least once a week for high whitefly population, then once every two or three weeks as populations decrease. Sunset Western Garden Book also recommends hitting both sides of the leaves of infested plants.

**A safe environment starts  
in your own backyard**



**Working for a Safer Tomorrow**



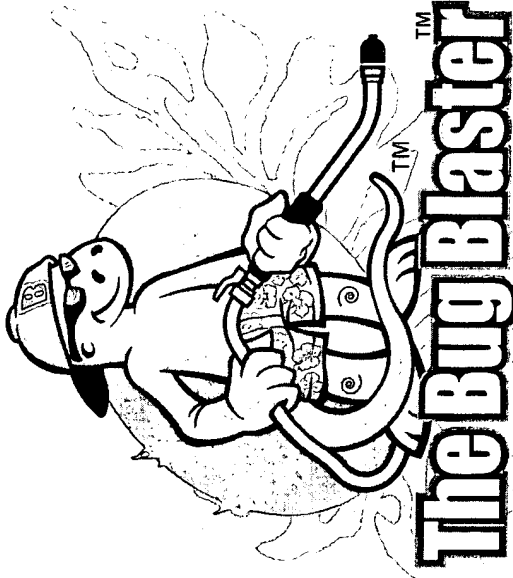
**100% Environmentally Safe Insect Control**

P.O. Box 73125 San Clemente, CA 92673

**(949) 493-3310**



[www.TheBugBlaster.com](http://www.TheBugBlaster.com)



**100% Environmentally Safe Insect Control**

•APHIDS •MEALY BUGS  
•WHITEFLIES •SPIDER MITES



**It's also a Fantastic Plant Cleaner!**

**Whether you are a veteran gardener or a weekend warrior. The Bug Blaster™ offers the safest and most effective non-toxic control for your garden pests. Imagine cleansing your green treasures with H<sub>2</sub>O. Novel as it is, this garden sprayer effectively controls aphids, whiteflies, mealy bugs, spider mites and more.**

Member Name: Edward M Jensen

Member Number: 80827711

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$ 24.95 (30")

At this price, do you feel this product is a good value? ● Yes ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	Poor	Fair	Good	Excellent	N/A
Ease of Use	○	○	●	○	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	●	○	○
Performance	○	○	○	●	○
Durability	○	○	○	●	○
Rated against similar products	○	○	○	○	●
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of Gardening How-To magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

*The Bug Blaster is easy to use all instructions advise spray bottom of the leaves This is so easy with the Bug Buster and so effective. Most instructions for aphids is spray with hose well Bug Blaster does a better job. I have 21 roses bushes using Bug Blaster it only took a few minutes per bush so easy*

Best feature(s): *Ease of handling, light weight*

Suggested Improvement(s): *Maybe a little longer?*

Additional Comments

*Construction work across the road dust and dirt was no problem with Bug Buster. Thank you*

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: NIGEL ANDREW

Member Number: 70015237

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ☒ Yes ☐ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ☒ Yes ☐ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	Poor	Fair	Good	Excellent	N/A
Ease of Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Clarity of Instructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Durability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Rated against similar products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Germination/Growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Bloom or vegetable production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Appearance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Effectiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Overall Rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

The Bug Blaster is the best! I can blast away the garden  
pests without harming the plants + without using  
pesticides. Very effective I would recommend it  
to all my fellow Club members.

Best feature(s): long handle to get the hard to reach places

Suggested Improvement(s): None! Its perfect

Additional Comments

Thanks for choosing me to test this  
product

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: Herta Olsfeld

Member Number: 70043504

Product tested: Bug Blaster

**Completely blacken the circle indicating your choice ( LIKE THIS → ● )**

Would you recommend the product to fellow Club members?    ● Yes    ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value?    ● Yes    ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	●	○	○
Clarity of Instructions	○	○	●	○	○
Design	○	○	●	○	○
Performance	○	○	●	○	○
Durability	○	○	○	●	○
Rated against similar products	○	●	○	○	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	○	●
Effectiveness	○	○	○	●	○
Overall Rating	○	○	●	○	

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

*The Bug Blaster is another great tool for my Garden and Orchard. We live in a very dusty Place and since the water spray goes under and over the plants and small trees. I have a healthier and cleaner Garden. Thank you for the Bug blaster*

Best feature(s): *the spraying ability*

Suggested Improvement(s): *none*

Additional Comments

**Thank you for participating in the Garden Club Product Test Program**

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Member Name: MS Kathy, Steuernagel

Member Number: 80748304

Product tested: Bug Blaster

**Completely blacken the circle indicating your choice ( LIKE THIS → ● )**

Would you recommend the product to fellow Club members? ☒ Yes ☐ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ☒ Yes ☐ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Clarity of Instructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Durability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Rated against similar products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Germination/Growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Bloom or vegetable production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Appearance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Effectiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Overall Rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

*It Really Works. I had such trouble with aphids before using this. Now no pesticide needed*

Best feature(s): *Fits my small hand*

Suggested Improvement(s): *[Signature]*

Additional Comments *Thank you!*

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you **must** submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: TAMI SCHNETZ

Member Number: 81141698

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ☒ Yes ☐ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ☒ Yes ☐ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	Poor	Fair	Good	Excellent	N/A
Ease of Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Clarity of Instructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Durability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Rated against similar products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Germination/Growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Bloom or vegetable production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Appearance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Effectiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Overall Rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

Would definitely recommend. Used on my crepe myrtle trees with aphid problem. Didn't need to use any chemicals and it worked.

Best feature(s): water pressure design strong enough to "blast" bugs but doesn't damage foliage

Suggested Improvement(s):

none

Additional Comments

great garden tool addition

**Thank you for participating in the Garden Club Product Test Program**

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Member Name: Linda Wright

Member Number: 80037362

Product tested: Bug Blaster

**Completely blacken the circle indicating your choice ( LIKE THIS → ● )**

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ● Yes ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	○	●	○
Performance	○	○	○	●	○
Durability	○	○	○	●	○
Rated against similar products	○	○	○	●	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	○	●
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

I have a 100% organic garden which prospers, but it always  
seems the aphids will zero in on one or two areas. The regular  
hose end sprayer doesn't quite do the trick, but this blaster  
really sent those aphids flying. (The birds had a feast too!)

Best feature(s): totally organic pest control

Suggested Improvement(s): maybe a shield near the handle to  
keep the user dry

Additional Comments

**Thank you for participating in the Garden Club Product Test Program**

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Member Name: DARLE E LUKKA

Member Number: 70001955

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ● Yes ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	●	○	○
Performance	○	○	○	●	○
Durability	○	○	●	○	○
Rated against similar products	○	○	○	○	●
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	●	○	○
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of Gardening How-To magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

As soon as I received the Bug Blaster, I put it to work. I had been fighting an infestation of aphids on my cucumber plants. I used the Bug Blaster on the cucumber plants a few times & my aphid problem is gone. The Bug Blaster is very easy to use & doesn't damage the foliage & no chemicals.

Best feature(s): The best feature is the water flow valve.

Suggested Improvement(s):

Additional Comments

**Thank you for participating in the Garden Club Product Test Program**

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Member Name: Ronald Winkler

Member Number: 70007469

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ● Yes ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	Poor	Fair	Good	Excellent	N/A
Ease of Use	○	○	●	○	○
Clarity of Instructions	○	○	●	○	○
Design	○	○	○	●	○
Performance	○	○	○	●	○
Durability	○	○	○	●	○
Rated against similar products	○	○	○	●	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of Gardening How-To magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

BUG BLASTER WORKS FAR BETTER THAN USING THE GARDEN HOSE METHOD ALONE - THE WATER JET DESIGN REALLY DOES A GREAT JOB IN THE VEGGIE GARDEN & THE ROSE GARDEN WHERE APHIDS ATTACKED THIS YEAR'S CUCUMBERS & HALF OF MY PRIZE ROSES - I WAS VERY HAPPY TO SEE BUG BLASTER GET WHITEFLIES OUT OF THE GRAPES ARBOR !!

Best feature(s): WATER JET DESIGN + WATER TURN-OFF ATTACHMENT LEVER

Suggested Improvement(s): A SLIGHT BEND IN THE PIPE NEAR THE HOSE CONNECTION MIGHT MAKE IT EASIER TO GET IN AND OUT OF HARD-TO-REACH PLACES, ESPECIALLY IF THE ANGLE COULD BE ADJUSTED.

Additional Comments: DID NOT WORK ON THE WILLOW - THOSE SKINNY LEAVES JUST WHIRLED AROUND WHEN THE WATER JET HIT. NOT SURE HOW DIAGRAM SHOWING WRIST

**Thank you for participating in the Garden Club Product Test Program**

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NEANT I SHOULD BE DOING... I THINK IT COULD BE A LITTLE DEEPER

Member Name: Margareta King

Member Number: 70004972

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ● Yes ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	○	●	○
Performance	○	○	○	●	○
Durability	○	○	○	●	○
Rated against similar products	○	○	○	●	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of Gardening How-To magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

My area (Southern Calif.) has a heavy infestation of  
white flies; anybody who has to deal with this curse, knows  
how difficult it is to get rid of them. I have now  
been using my "Bug Blaster" on my 8 ft. tall, heavily infested  
hibiscus, for fifty consecutive days and ... almost nearly a  
pesky white fly to be found!!  
Thank you, Bug Blaster!

Best feature(s): Ease of use

Suggested Improvement(s): \_\_\_\_\_

Additional Comments

Anybody who would like to use an organic method  
to eradicate garden pests should seriously consider  
"Bug Blaster" -

**Thank you for participating in the Garden Club Product Test Program**

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Member Name: JACQUE MUNROE

Member Number: 70036220

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ● Yes ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	●	○	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	●	○	○
Performance	○	○	●	○	○
Durability	○	○	●	○	○
Rated against similar products	○	○	○	○	●
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	●	○	○
Overall Rating	○	○	●	○	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

This is an excellent alternative to chemical means of getting rid of bugs. And cleans well too. I've hesitated to using chemicals so have put up with the bugs. Glad now to have an effective method of being rid of them. My only complaint would be about getting drenched in the process. But in the summer that's refreshing. Got rain gear?

Best feature(s): Hand grip for easy holding, on/off valve

Suggested Improvement(s): \_\_\_\_\_

Additional Comments

**Thank you for participating in the Garden Club Product Test Program**

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Member Name: Bev J Bolduc-Aldridge

Member Number: 70034412

Product tested: Bug Blaster

**Completely blacken the circle indicating your choice ( LIKE THIS → ● )**

Would you recommend the product to fellow Club members?    ● Yes       ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value?    ● Yes       ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	○	●	○
Performance	○	○	●	○	○
Durability	○	○	○	●	○
Rated against similar products	○	○	●	○	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	●	○	○
Overall Rating	○	○	○	●	

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

I used the Bug Blaster on my Hibiscus to remove Aphids and within 2 weeks  
of testing the Bug Blaster the Aphids were gone and it didn't seem to  
harm the plant or the praying mantises, who are now looking for  
other food.

Best feature(s): The Bug Blaster cleared the dead blossom from inside  
the plant without me having to reach way in.

Suggested Improvement(s): \_\_\_\_\_

Additional Comments \_\_\_\_\_

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: Patricia K Rice

Member Number: 70057991

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members?    ● Yes    ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value?    ○ Yes    ● No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	○	●	○
Performance	○	○	○	●	○
Durability	○	○	○	●	○
Rated against similar products	○	○	○	●	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

WOW! THIS IS GREAT! NOW I CAN BLAST THOSE BAD  
BUGS ON THE BACK OF THE LEAVES WITHOUT GOING  
THROUGH ALL THE CONTORTIONS TRYING TO REACH THEM  
WITH AN ORDINARY STREAM NOZZEL. SURE MAKES  
IT EASIER ON THIS OLD BACK.

Best feature(s): EASY GRIP & MANUEVABILITY

Suggested Improvement(s): DIFFERENT COLORS? VARIOUS  
LENGTHS, SHORTER & LONGER.

Additional Comments

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: MRS Norma J Parry

Member Number: 80673397

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ☒ Yes ☐ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ☒ Yes ☐ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Clarity of Instructions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Design	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Durability	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rated against similar products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Germination/Growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Bloom or vegetable production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Appearance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effectiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Overall Rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of Gardening How-To magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

*I could hardly wait for the Bug Blaster, it sure changed the leaves and dirt away. There are no insects or webs on the leaves. I worked the bug blaster in and out of my shrubs. The shrubs are a nice green and shiny.*

Best feature(s): *Easy to use*

Suggested Improvement(s): *none*

Additional Comments

*I'm so glad to have one, I even want next door to do my neighbors, she wants one.*

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you **must** submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: Derry Jwell

Member Number: 70052476

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ○ Yes ● No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	○	●	○
Performance	○	○	●	○	○
Durability	○	○	○	●	○
Rated against similar products	○	○	○	○	●
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

I used the Bug Blaster to rid my Lilies of aphids  
and ants that tend them. Used it several times to  
keep both under control. First time I used Bug  
Blaster I sprayed myself till I got used to rotate  
and raised the wand.

Best feature(s): able to reach the lilies in back

Suggested Improvement(s): Choice of trigger or lever would  
be handy.

Additional Comments

When used as recommended the Bug Blaster  
is very effective.

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: THOMAS KARWIN

Member Number: 80722195

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ● Yes ○ No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	Poor	Fair	Good	Excellent	N/A
Ease of Use	○	○	●	○	○
Clarity of Instructions	○	○	○	●	○
Design	○	○	○	●	○
Performance	○	○	○	●	○
Durability	○	○	○	●	○
Rated against similar products	○	○	○	●	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	○	●	○
Overall Rating	○	○	○	●	○

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

THIS IS AN EXCELLENT SPECIAL-PURPOSE TOOL  
THAT GARDENERS NEED AND WILL USE. THE UNUSUAL  
SPRAY PATTERN REQUIRES A BIT OF PRACTICE  
(OR A RAINCOAT), BUT IT'S JUST WHAT IS  
NEEDED FOR BLASTING BUGS.

Best feature(s): QUALITY CONSTRUCTION

Suggested Improvement(s): \_\_\_\_\_

Additional Comments  
\_\_\_\_\_  
\_\_\_\_\_

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: Mrs Ivy Porter

Member Number: 80930640

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ○ Yes ● No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	●	○	○
Design	○	○	●	○	○
Performance	○	○	●	○	○
Durability	○	○	●	○	○
Rated against similar products	○	○	●	○	○
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	●	○	○
Effectiveness	○	○	●	○	○
Overall Rating	○	○	●	○	

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of Gardening How-To magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

THE BEST PART IS THE CONVENIENT EASE OF USE.  
CLEANS THE UNDERSIDE OF SEVERAL SIZED TREES &  
BUSHES THAT I WAS GETTING WHITE FLIES ON. AFTER  
3 DOSES WITH THE BUG BLASTER THEY HAVE RETURNED  
AS OF YET.  
SO MUCH HEALTHIER AND BETTER THAN USING INSECTICIDES  
NOT

Best feature(s): FOAM GRIP IS SO COMFORTABLE TO HOLD

Suggested Improvement(s): LOWER PRICE

Additional Comments

I LOVE THE BRIGHT GREEN COLOR

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

Member Name: MS NANCY VANDERMEY

Member Number: 70098546

Product tested: Bug Blaster

Completely blacken the circle indicating your choice ( LIKE THIS → ● )

Would you recommend the product to fellow Club members? ● Yes ○ No

The suggested retail price is \$24.95 (30")

At this price, do you feel this product is a good value? ○ Yes ● No

Please rate the product tested on the criteria listed below. Due to the diversity of products in the test program, some of the criteria may not be applicable. In such cases, please select the "N/A" circle. **COMPLETELY BLACKEN THE CIRCLE INDICATING YOUR CHOICE.**

	<u>Poor</u>	<u>Fair</u>	<u>Good</u>	<u>Excellent</u>	<u>N/A</u>
Ease of Use	○	○	○	●	○
Clarity of Instructions	○	○	●	○	○
Design	○	○	●	○	○
Performance	○	○	●	○	○
Durability	○	○	●	○	○
Rated against similar products	○	○	○	○	●
Germination/Growth	○	○	○	○	●
Bloom or vegetable production	○	○	○	○	●
Appearance	○	○	○	●	○
Effectiveness	○	○	●	○	○
Overall Rating	○	○	●	○	

Please use this section to describe your main reasons for either recommending or not recommending the product. Excerpts from this report may be published in a future issue of *Gardening How-To* magazine, the Club's web site or in the manufacturers marketing and advertising campaigns.

I've had a bad whitefly problem This summer and tried safer soap, horticultural oil, and this product. This was by far the funnest and cleanest and least toxic, and worked as well as the other products.

Best feature(s): non toxic

Suggested Improvement(s): -

Additional Comments

**Thank you for participating in the Garden Club Product Test Program**

To participate in another product test, you must submit a new profile. Please call 1-800-324-8454 to order a profile or go to the club website at [gardeningclub.com](http://gardeningclub.com) and submit a profile electronically.

March/April 2003

www.gardenclub.com

# gardening

## HOW-TO



**Cool Blue Plants**  
Seed Starting Steps  
**Making Maple Syrup**  
Glorious Spring Garden

NATIONAL HOME GARDENING CLUB MAGAZINE

## BUG SPRAYER

The Bug Blaster garden sprayer attaches to your garden hose and helps control all types of insects. The nozzle creates a 360-degree wall of water to blast pests from the tops and bottoms of leaves and clear off sooty mold and dirt. It comes in two sizes or a conversion kit. Bug Blaster, 949-493-3310, [www.theBugBlaster.com](http://www.theBugBlaster.com). \$24.95 for a 30-inch wand.



### TESTER RATINGS

Ease of Use	7.4
Clarity of Instructions	7.8
Effectiveness	7.2
Overall Rating	7.2

**Rick Jennings, Fortuna, CA**

"It was excellent for washing bugs off my roses and other plants. Its length made it easy to water both my hanging and low-growing plants."

**Muriel Rolandson, Highland, CA** "I used it on roses and hibiscuses to eliminate aphids. It was effective without using pesticides and it didn't hurt the flower buds. Great for cleaning leaves too!"

## PLANT FOOD

Miracle-Gro Shake 'n Feed Plant Food is a whole new way to feed your plants. Apply this timed-release plant food directly to the soil using the applicator package. Provides constant nutrition to your garden for up to three months. Scotts Miracle-Gro Products, Inc., 800-645-8166, [www.miracle-gro.com](http://www.miracle-gro.com). \$9.99 for 4½ lbs.



### TESTER RATINGS

Clarity of Instructions	8.7
Ease of Use	9.1
Performance	8.4
Overall Rating	8.4

**Kathy Wilcox, Hudson, FL** "The container was easy to use, mess free, and refillable. I could control exactly where and how much of the product was delivered. The formula didn't burn my plants, and it was easy to rake into the mulch around my plants."

**Deborah Earles, Spring Valley, CA** "I tried it on a plant that didn't seem to be growing. Within a week it had 3-inch-tall leaf stalks. The blooms in the rest of my garden were also much larger and healthier than last year."

## BUTTERFLY GARDEN

The Butterfly Garden is a seeded rollout mat that contains 20 different varieties of annual and perennial wildflowers for sunny spots. The varieties bloom at different times and provide color all summer. Creative Garden Concepts, 888-246-6287, [www.creativegardenconcepts.com](http://www.creativegardenconcepts.com). \$10.99.



### TESTER RATINGS

Clarity of Instructions	8.6
Germination	5.7
Bloom Production	5.9
Overall Rating	6.1

**Deborah Lapicola, East Troy, WI**

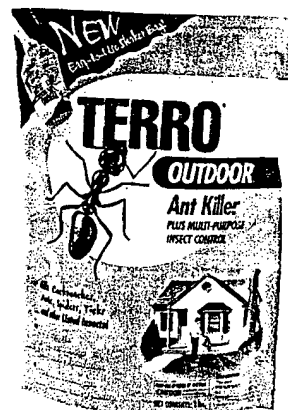
"The butterfly garden was great. The instructions were clear and it was easy to use. Plants germinated quickly and the flowers were beautiful, fragrant, and hardy."

**Linda Eddy, Fruitvale, TX** "The mat was fast and easy to use. It is versatile—I just cut it to fit my flower bed. The plants were healthy and produced great blooms. The hummingbirds liked it, too!"

## ANT KILLER

Terro Outdoor Ant Killer kills ants and other crawling insects before they move indoors. Shake the granules along the perimeter of your home to create a protective barrier, use it as a spot treatment on anthills, spread it where ants enter buildings, or apply it to new anthills. Senoret Chemical Co., store locator at [www.terro.com](http://www.terro.com). \$6.99 for 3-lb. bag.

**T. Blanchard, Jefferson City, MO** "I had a continual problem with ants along my driveway. After only one application, the ants disappeared. I also applied it near my sliding glass doors where ants come in every year. This year, no ants!"



**Shirley Williams, Waupun, WI** "My yard was covered with anthills. After using this product, there were none. It was easy to use, and I liked the design of the shaker bag."

### TESTER RATINGS

Clarity of Instructions	9.0
Ease of Use	8.9
Effectiveness	7.9
Overall Rating	7.9

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant	:	Patrick J. O'Donnell
Appl. No.	:	09/557,234
Filed	:	April 24, 2000
For	:	METHOD AND APPARATUS FOR DISLODGING INSECTS FROM PLANTS
Examiner	:	A. Valenti
Group Art Unit	:	3643

**SUPPLEMENTAL DECLARATION OF PATRICK O'DONNELL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I, Patrick O'Donnell, hereby declare that:

1. I believe that I am the original and sole inventor of the subject matter described and claimed in the above-captioned application.

2. I currently market a method and apparatus for dislodging insects from plants under the trade name "THE BUG BLASTER™".

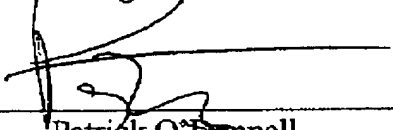
3. On November 8, 2003 I executed a Declaration concerning a Test Program administered by the National Home Gardening Club (the "Club") that I enrolled in to test The Bug Blaster™. The November 2003 Declaration stated my enrollment in the Test Program and included some results of the program. Since The Bug Blaster™ received positive results, I am now entitled to use the Club's "Member Tested and Recommended" seal-of-approval.

4. Attached as Exhibit A is a true and correct copy of the Club's own description of their Test Program, in which I participated. In accordance with the statements in Exhibit A, I did not pay any money to the Club or any other entity in exchange for the opportunity to participate in the Test Program. Rather, I supplied one sample product to each evaluating Club member.

Appl. No. : 09/557,234  
Filed : April 24, 2000

After testing the product, each evaluating Club member returned an evaluation form evaluating the product to the Club, and the evaluator was allowed to keep the product.

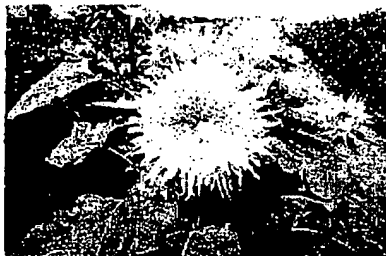
5. I declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the application or patent issuing therefrom.

  
\_\_\_\_\_  
Patrick O'Donnell

Date: 6/28/05

1790046  
062705

# OUR CLUB MEMBERS, Your Potential Customers!



Members of the National Home Gardening Club find gardening pleasurable, fun and an adventure. They find satisfaction at a garden bursting with colorful flowers or a bountiful harvest, trying new things, planning their garden. They are always on the lookout for products that make gardening easier, more enjoyable and successful — everything from

seeds to trowels to garden benches, tillers and accessories. National Home Gardening Club members are passionate about gardening and eager to try new products.

National Home Gardening Club members pursue beautiful gardens and luscious vegetables. They have tremendous reader involvement, creating an exceptional marketing opportunity for you.

## A Program that Benefits You and Our Members!

The National Home Gardening Club Product Test Program was implemented to benefit both our Club members and you, the product manufacturer. It is a unique "win-win" concept that has grown to be one of the most popular benefits of the National Home Gardening Club.

### Here's how it works:

- You provide products for our Club members to test. If the majority of testers recommend your product, you'll receive free national exposure in our magazine as well as our endorsement. Plus, you'll receive copies of the report forms that testers filled out. Use these reports for your own market research.
- The products are distributed to our Club members based on your demographic criteria. Our members will test your product and send in honest reports on how it performed. In exchange for their effort, the members get to keep the product — free.



### Member Profile

Female	73%
Median Age	49
Average Home Value	\$135,100
Median Household Income	\$50,800
Married	71%
Taken from 1997 MRI	

### Notable Statistics

Survey of manufacturers testing products in 1999	
Testing Met Expectations	88%
Found Test Reports Useful	100%
Would Test Another Product	92%

**For More Information  
Contact Us Today!**



*If approved by National Home Gardening Club members, your product will be featured here with member comments and ratings!*

# 5 Reasons

## Why You Should Participate:

### 1. National Exposure — FREE

If your product is approved by NHGC members, it will be seen by hundreds of thousands of avid gardeners nationwide in *Gardening How-To*, the official publication of the National Home Gardening Club. You will have the edge over your competition when our members — your potential customers — read favorable reports given by fellow gardeners who have used your product.

### 2. FREE Market Research

Why spend thousands of dollars to test your product when you can put it to the test for FREE. Our Product Test Program, puts your product into the hands of our members. They'll rate your product based on information such as value, ease of use, quality, packaging and more. After your product has been tested by our National Home Gardening Club members, we'll send you the in-depth product reports to use in your product and marketing research. This is one of the best ways to find out what consumers really think about your products without spending a fortune.



### 3. FREE use of the NHGC "Member Tested & Recommended" Seal-Of-Approval

The National Home Gardening Club "Member Tested and Recommended" Seal-of-Approval can be the deciding vote your potential customers need to convince them your products are the ones to buy. When they see our seal in your advertisements, literature, website and on product packaging, they will feel the added security of knowing members of the #1 gardening club in America have approved your product.



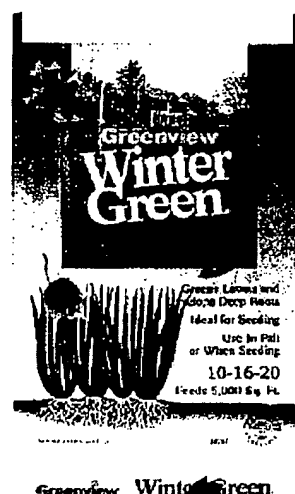
### 4. Affordable

Shipping your product to our testers, and the actual cost of your product, is your only investment. You pay no additional fees. You won't find a more affordable way to reach your target market.

### 5. Hassle-Free

We do all of the work for you. All you have to do is supply and ship the product. Reaching your target market has never been easier!

- Call (800) 207-8571, ask for your Product Test Coordinator
- Fax (952) 988-7197
- E-mail [producttestdept@namginc.com](mailto:producttestdept@namginc.com)





## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

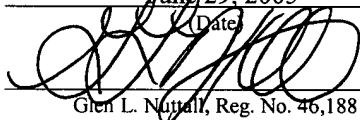
## BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant : Patrick J. O'Donnell  
Appl. No. : 09/557,234  
Filed : April 24, 2000  
For : METHOD AND APPARATUS  
FOR DISLODGING INSECTS  
FROM PLANTS  
Examiner : A. Valenti  
Group Art Unit : 3643

## CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

June 29, 2005

  
Glen L. Nuttall, Reg. No. 46,188

SUBMISSION OF COPIES OF CASES, STATUTES AND M.P.E.P. SECTIONS  
CITED IN APPLICANT'S BRIEF

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

For the Board's convenience, Applicant submits herewith copies of cases, statutes and M.P.E.P. sections cited in Applicant's brief

Respectfully submitted,

KNOBBE, MARTENS, OLSON &amp; BEAR, LLP

Dated: 6/29/05By: 

Glen L. Nuttall  
Registration No. 46,188  
Attorney of Record  
Customer No. 20,995  
(949) 760-0404



PODON.001A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Patrick J. O'Donnell  
Appl. No. : 09/557,234  
Filed : April 24, 2000  
For : METHOD AND APPARATUS  
FOR DISLODGING INSECTS  
FROM PLANTS  
Examiner : A. Valenti  
Group Art Unit : 3643

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

June 29, 2005

(Date)

Glen L. Nettall, Reg. No. 46,188

SUBMISSION OF SUPPLEMENTAL DECLARATION  
OF PATRICK O'DONNELL

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Submitted herewith is a Supplemental Declaration of Patrick O'Donnell.

This Supplemental Declaration is being submitted after the filing of a Notice of Appeal and on the same date as submission of an appeal brief in the above-captioned application.

The Supplemental Declaration is further to a Declaration (including Exhibits A, B and C) executed November 8, 2003 and filed with the Patent Office on November 26, 2003 (the "2003 Declaration"). In the 2003 Declaration, Applicant discusses his involvement with a Test Program of the National Home Gardening Club, and included evidence, including test results and evaluator reviews, from the Test Program. Applicant has referred to these test results and evaluator reviews in his Appeal Brief.

During review of the file in preparation of the Appeal Brief, Applicant noted that it was not clear from the 2003 Declaration that Applicant did not pay any money for participation in the Test Program, but merely supplied products for evaluators to test. Since Applicant believes this fact strengthens the reliability of the previously-submitted evidence, Applicant thought it prudent to submit the enclosed Supplemental Declaration, which includes as Exhibit A a true and correct

**Appl. No.** : 09/557,234  
**Filed** : April 24, 2000

copy of materials from the National Home Gardening Club describing how the Test Program works.

This Supplemental Declaration is submitted solely to better establish the reliability of the evidence submitted with the 2003 Declaration; it is not for the purpose of presenting new substantive evidence. As such, Applicant believes that it does not raise any new issues, and simply validates the reliability of the record for appeal.

Applicant respectfully requests that the Supplemental Declaration be admitted into the record for appeal.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: \_\_\_\_\_

6/29/05

By: \_\_\_\_\_



Glen L. Nuttall

Registration No. 46,188

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(4) any proposed disposition of surplus fees by the Office; and

(5) such other information as the committees consider necessary.

(Amended Nov. 14, 1975, Public Law 94-131, sec. 4, 89 Stat. 690; Dec. 12, 1980, Public Law 96-517, sec. 3, 94 Stat. 3018; Aug. 27, 1982, Public Law 97-247, sec. 3(g), 96 Stat. 319; Sept. 13, 1982, Public Law 97-258, sec. 3(i), 96 Stat. 1065.)

(Subsection (c) amended Dec. 10, 1991, Public Law 102-204, sec. 5(e), 105 Stat. 1640.)

(Subsection (e) added Dec. 10, 1991, Public Law 102-204, sec. 4, 105 Stat. 1637.)

(Subsection (c) revised Nov. 10, 1998, Public Law 105-358, sec. 4, 112 Stat. 3274.)

(Amended Nov. 29, 1999, Public Law 106-113, sec. 1000(a)(9), 113 Stat. 1501A-555, 582 (S. 1948 secs. 4205 and 4732(a)(10)(A)).)

## PART II — PATENTABILITY OF INVENTIONS AND GRANT OF PATENTS

### CHAPTER 10 — PATENTABILITY OF INVENTIONS

Sec.

100 Definitions.

101 Inventions patentable.

102 Conditions for patentability; novelty and loss of right to patent.

103 Conditions for patentability; non-obvious subject matter.

104 Invention made abroad.

105 Inventions in outer space.

#### 35 U.S.C. 100 Definitions.

When used in this title unless the context otherwise indicates -

(a) The term "invention" means invention or discovery.

(b) The term "process" means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

(c) The terms "United States" and "this country" mean the United States of America, its territories and possessions.

(d) The word "patentee" includes not only the patentee to whom the patent was issued but also the successors in title to the patentee.

(e) The term "third-party requester" means a person requesting ex parte reexamination under section 302 or inter partes reexamination under section 311 who is not the patent owner.

(Subsection (e) added Nov. 29, 1999, Public Law 106-113, sec. 1000(a)(9), 113 Stat. 1501A-567 (S. 1948 sec. 4603).)

#### 35 U.S.C. 101 Inventions patentable.

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

#### 35 U.S.C. 102 Conditions for patentability; novelty and loss of right to patent.

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in — (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the inter-

present. For these reasons, the court adopts the modified jurisdiction test.<sup>7</sup>

[2] The court determines, without hesitation, that Turbo Tek has the continuous and systematic contacts with North Carolina necessary to support general jurisdiction and thus venue. In the last year, Turbo Tek has sold in North Carolina 30,570 of its pressure washers, 24,720 bottles of soft suds, 7,164 bottles of hard suds, 81,678 bottles of exploding wax, and 864 unspecified products. North Carolina accounts for 3.6% of Turbo Tek's total sales, yielding Turbo Tek over \$300,000.00 in the last year. Turbo Tek transports these goods directly from its facilities in California to its customers in North Carolina. In addition, Turbo Tek has a sales representative who permanently resides in North Carolina and solicits sales throughout the state. Turbo Tek's Vice

<sup>7</sup> The Fourth Circuit has not explicitly addressed the proper test for determining "doing business" venue. The two Fourth Circuit cases mentioning "doing business" venue have merely recited the contacts with the forum and then concluded that venue is proper. See *In Re Ralston Purina Co.*, 726 F.2d 1002, 1003 (4th Cir. 1984) (recites contacts and then merely states that "Purina 'is doing business' under 28 U.S.C. §1391(c)"); *Du-Al Corp. v. Rudolph Beaver, Inc.*, 540 F.2d 1230, 1231, 1233 (4th Cir. 1976) (recites contacts then merely states that "collectively these activities constituted 'doing business'"). Arguably, by explaining that the contacts satisfied personal jurisdiction and then concluding that these same contacts amounted to "doing business", *Du-Al* equates venue and personal jurisdiction. A few cases have interpreted *Du-Al* as equating venue and personal jurisdiction. See e.g. *Precision Rubber Products v. George McCarthy, Inc.*, 605 F.Supp. 473, 477 (M.D.Tenn. 1984); 1985); *Witzel v. Chartered Systems Corp. of N.Y.*, 490 F.Supp. 343, 348 (D.Minn. 1980). See also Note, 65 Tex.L.Rev. at n.57 and accompanying text (interprets *Du-Al* as equating venue and personal jurisdiction). Yet, a recent case states that *Du-Al* "might be said to have adopted this view [i.e. the jurisdiction test] ... although less clearly ... and with less discussion [than the other cases adopting the view]." *Maybelline Co.*, 813 F.2d at n.5 [2 USPQ2d at 1127 n.5] (emphasis added). Moreover, *Du-Al* was decided before the Supreme Court, in *Leroy*, expressed that venue statutes are designed to protect the defendant from an inconvenient forum. In sum, given the inexplicitness of *Du-Al*, the conflicting interpretations of *Du-Al* by other courts, and the fact *Du-Al* was decided before *Leroy*, this court may appropriately attempt to refine the "doing business" standard in the this circuit. As such, the court herein adopts the modified jurisdiction test. The court notes, however, that venue is proper in the instant case under either the jurisdiction or the modified jurisdiction test.

President has, on at least one occasion, visited customers within North Carolina. Furthermore, Turbo Tek has run television advertisements on seventeen local television stations in North Carolina. Finally, Turbo Tek operates a mail order business, under the name Distribution Systems International, that has received and honored mail orders from North Carolinians. The court, accordingly, concludes that under the modified jurisdiction test Turbo Tek is "doing business" in North Carolina, thereby establishing venue under §1391(c).<sup>8</sup>

### CONCLUSION

The court concludes that plaintiff complied with Fed.R.Civ.P. 4(c)(2)(C)(ii) in personally serving defendant, outside the forum state, with notice of this action. The court further concludes that defendant is "doing business" in North Carolina and thus venue is proper under 28 U.S.C. §1391(c). The court, accordingly, denies defendant's motion to dismiss.

### Court of Appeals, Federal Circuit

In re Fine

No. 87-1319

Decided January 26, 1988

### PATENTS

#### 1. Patentability/Validity — Obviousness — Evidence of (§115.0903)

Patent and Trademark Office improperly rejected claimed invention for obviousness since nothing in cited references, either alone or in combination, suggests or teaches claimed invention, since there is consequently no support for PTO's conclusion that substitution of one type of detector for another in prior art system, resulting in claimed invention, would have been obvious, and since PTO therefore failed to satisfy its burden of establishing prima facie case of obviousness by showing some objective teaching or gener-

<sup>8</sup> Because the court finds venue proper under §1391(c), it will not address whether the claims herein arose in North Carolina. See 28 U.S.C. §1391(b).

ally available knowledge that would lead one skilled in art to combine teachings of existing references.

**2. Patentability/Validity — Obviousness — In general (§115.0901)**

Obviousness is tested by what combined teachings of prior art references would have suggested to those of ordinary skill in art, not by whether particular combination of elements from such references might have been "obvious to try."

**3. Patentability/Validity — Obviousness — Evidence of (§115.0903)**

Patent and Trademark Office erred, in rejecting as obvious system for detecting and measuring minute quantities of nitrogen compounds, by failing to recognize that appealed claims can be distinguished over combination of prior art references, in view of evidence demonstrating that prior art does not teach claimed temperature range, despite some overlap of preferred temperature ranges for claimed invention and prior art, since purposes of preferred temperature ranges are different and overlap is mere happenstance.

**4. Patentability/Validity — Obviousness — In general (§115.0901)**

Dependent claims are non-obvious under 35 USC 103 if claims from which they depend are non-obvious.

Appeal from the U.S. Patent and Trademark Office Board of Patent Appeals and Interferences.

Application for patent by David H. Fine, Serial No. 512,374. From decision of Board of Patent Appeals and Interferences affirming rejection of application, applicant appeals. Reversed; Smith, circuit judge, dissenting with opinion.

Morris Relson and Darby, & Darby, New York, N.Y., (Beverly B. Goodwin with them on the brief) for appellant.

Lee E. Barrett, associate solicitor, Arlington, Va., (Joseph F. Nakamura, solicitor, and Fred E. McKelvey, deputy solicitor, with him on the brief) for appellee.

Before Friedman, Smith, and Mayer, circuit judges.

Mayer, J.

David H. Fine appeals from a decision of the Board of Patent Appeals and Interfer-

ences of the United States Patent and Trademark Office (Board) affirming the rejection of certain claims of his application, Serial No. 512,374, and concluding that his invention would have been obvious to one of ordinary skill in the art and was therefore unpatentable under 35 U.S.C. §103. We reverse.

**Background**

**A. The Invention.**

The invention claimed is a system for detecting and measuring minute quantities of nitrogen compounds. According to Fine, the system has the ability to detect the presence of nitrogen compounds in quantities as minute as one part in one billion, and is an effective means to detect drugs and explosives, which emanate nitrogen compound vapors even when they are concealed in luggage and closed containers.

The claimed invention has three major components: (1) a gas chromatograph which separates a gaseous sample into its constituent parts; (2) a converter which converts the nitrogen compound effluent output of the chromatograph into nitric oxide in a hot, oxygen-rich environment; and (3) a detector for measuring the level of nitric oxide. The claimed invention's sensitivity is achieved by combining nitric oxide with ozone to produce nitrogen dioxide which concurrently causes a detectable luminescence. The luminescence, which is measured by a visual detector, shows the level of nitric oxide which in turn is a measure of nitrogen compounds found in the sample.

The appealed claims were rejected by the Patent and Trademark Office (PTO) under 35 U.S.C. §103. Claims 60, 63, 77 and 80 were rejected as unpatentable over Eads, Patent No. 3,650,696 (Eads) in view of Warnick, et al., Patent No. 3,746,513 (Warnick). Claims 62, 68, 69, 79, 85 and 86 were rejected as unpatentable over Eads and Warnick in view of Glass, et al., Patent No. 3,207,585 (Glass).

**B. The Prior Art.**

**1. Eads Patent.**

Eads discloses a method for separating, identifying and quantitatively monitoring sulfur compounds. The Eads system is used primarily in "air pollution control work in the scientific characterization of odors from sulfur compounds."

The problem addressed by Eads is the tendency of sulfur compounds "to adhere to or react with the surface materials of the sampling and analytical equipment, and/or react with the liquid or gaseous materials in the equipment." Because of this, the accura-

cy of measurement is impaired. To solve the problem, the Eads system collects an air sample containing sulfur compounds in a sulfur-free methanol solution. The liquid is inserted into a gas chromatograph which separates the various sulfur compounds. The compounds are next sent through a pyrolysis furnace where they are oxidized to form sulfur dioxide. Finally, the sulfur dioxide passes through a measuring device called a microcoulometer which uses titration cells to calculate the concentration of sulfur compounds in the sample.

### 2. Warnick Patent.

Warnick is directed to a means for detecting the quantity of pollutants in the atmosphere. By measuring the chemiluminescence of the reaction between nitric oxide and ozone, the Warnick device can detect the concentration of nitric oxide in a sample gaseous mixture.

Warnick calls for "continuously flowing" a sample gaseous mixture and a reactant containing ozone into a reaction chamber. The chemiluminescence from the resulting reaction is transmitted through a light-transmitting element to produce continuous readouts of the total amount of nitric oxide present in the sample.

### 3. Glass Patent.

The invention disclosed in Glass is a device for "completely burning a measured amount of a substance and analyzing the combustion products." A fixed amount of a liquid petroleum sample and oxygen are supplied to a flame. The flame is then spark-ignited, causing the sample to burn. The resulting combustion products are then collected and measured, and from this measurement the hydrogen concentration in the sample is computed.

### C. The Rejection.

The Examiner rejected claims 60, 63, 77 and 80 because "substitution of the [nitric oxide] detector of Warnick for the sulfur detector of Eads would be an obvious consideration if interested in nitrogen compounds, and would yield the claimed invention." He further asserted that "Eads teaches the [claimed] combination of chromatograph, combustion, and detection, in that order: . . . Substitution of detectors to measure any component of interest is well within the skill of the art." In rejecting claims 62, 68, 69, 79, 85 and 86, the Examiner said, "Glass et al. teach a flame conversion means followed by a detector, and substitution of the flame conversion means of Glass et al. for the furnace of Eads would be an obvious equivalent and would yield the claimed invention." The Board affirmed the Examiner's rejection.

## Discussion

### A. Standard of Review.

Obviousness under 35 U.S.C. §103 is "a legal conclusion based on factual evidence." *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983) (quoting *Stevenson v. Int'l Trade Comm'n*, 612 F.2d 546, 549, 204 USPQ 276, 279 (CCPA 1979)). Therefore, an obviousness determination is not reviewed under the clearly erroneous standard applicable to fact findings, *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983); it is "reviewed for correctness or error as a matter of law." *In re De Blauwe*, 736 F.2d 699, 703, 222 USPQ 191, 195 (Fed. Cir. 1984).

To reach a proper conclusion under §103, the decisionmaker must step backward in time and into the shoes worn by [a person having ordinary skill in the art] when the invention was unknown and just before it was made. In light of *all* the evidence, the decisionmaker must then determine whether . . . the claimed invention as a whole would have been obvious at *that* time to *that* person. 35 U.S.C. §103. The answer to that question partakes more of the nature of law than of fact, for it is an ultimate conclusion based on a foundation formed of all the probative facts.

*Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566, 1 USPQ2d 1593, 1595-96 (Fed. Cir. 1987).

### B. Prima Facie Obviousness.

Fine says the PTO has not established a *prima facie* case of obviousness. He contends the references applied by the Board and Examiner were improperly combined, using hindsight reconstruction, without evidence to support the combination and in the face of contrary teachings in the prior art. He argues that the appealed claims were rejected because the PTO thought it would have been "obvious to try" the claimed invention, an unacceptable basis for rejection.

[1] We agree. The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. See *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-87 (Fed. Cir. 1984). It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. *In re Lahu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1984); see also *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*,

776 F.2d 281, 297 n.24, 227 USPQ 657, 667 n.24 (Fed. Cir. 1985); *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). This it has not done. The Board points to nothing in the cited references, either alone or in combination, suggesting or teaching Fine's invention.

The primary basis for the Board's affirmation of the Examiner's rejection was that it would have been obvious to substitute the Warnick nitric oxide detector for the Eads sulfur dioxide detector in the Eads system. The Board reiterated the Examiner's bald assertion that "substitution of one type of detector for another in the system of Eads would have been within the skill of the art," but neither of them offered any support for or explanation of this conclusion.

Eads is limited to the analysis of sulfur compounds. The particular problem addressed there is the difficulty of obtaining precise measurements of sulfur compounds because of the tendency of sulfur dioxide to adhere to or react with the sampling analytic equipment or the liquid or gaseous materials in the equipment. It solves this problem by suggesting that the gaseous sample containing sulfur compounds be absorbed into sulfur-free methanol and then inserted into a gas chromatograph to separate the sulfur compounds.

There is no suggestion in Eads, which focuses on the unique difficulties inherent in the measurement of sulfur, to use that arrangement to detect nitrogen compounds. In fact, Eads says that the presence of nitrogen is undesirable because the concentration of the titration cell components in the sulfur detector is adversely affected by substantial amounts of nitrogen compounds in the sample. So, instead of suggesting that the system be used to detect nitrogen compounds, Eads deliberately seeks to avoid them; it warns against rather than teaches Fine's invention. See *W. L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983) (error to find obviousness where references "diverge from and teach away from the invention at hand"). In the face of this, one skilled in the art would not be expected to combine a nitrogen-related detector with the Eads system. Accordingly, there is no suggestion to combine Eads and Warnick.

Likewise, the teachings of Warnick are inconsistent with the claimed invention, to some extent. The Warnick claims are directed to a gas stream from engine exhaust "continuously flowing the gaseous mixtures into the reaction chamber" to obtain "con-

tinuous readouts" of the amount of nitric oxide in the sample. The other words, it contemplates measuring the total amount of nitric oxide in a continuously flowing gaseous mixture of unseparated nitrogen constituents. By contrast, in Fine each nitrogen compound constituent of the gaseous sample is retained in the Chromatograph for an individual time period so that each exits in discrete, time-separated pulses.\* By this process, each constituent may be both identified by its position in time sequence, and measured. The claimed system, therefore, diverges from Warnick and teaches advantages not appreciated or contemplated by it.

Because neither Warnick nor Eads, alone or in combination, suggests the claimed invention, the Board erred in affirming the Examiner's conclusion that it would have been obvious to substitute the Warnick nitric oxide detector for the Eads sulfur dioxide detector in the Eads system. *ACS Hosp. Sys.*, 732 F.2d at 1575-77, 221 USPQ at 931-33. The Eads and Warnick references disclose, at most, that one skilled in the art might find it obvious to try the claimed invention. But whether a particular combination might be "obvious to try" is not a legitimate test of patentability. *In re Geiger*, 815 F.2d 868, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *In re Goodwin*, 576 F.2d 375, 377, 198 USPQ 1, 3 (CCPA 1978).

[2] Obviousness is tested by "what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so." *Id.* Here, the prior art contains none.

Instead, the Examiner relies on hindsight in reaching his obviousness determination.

\* The Solicitor argues that the contents of Attachment C of Fine's brief were not before the Board and may not properly be considered here. However, we need not rely on Attachment C. It is merely illustrative of the qualitative separation of nitrogen compounds which occurs in Fine's system. The fact that the various constituents exit at discrete intervals is shown by the specification which was before the Board and which may appropriately be considered on appeal. See, e.g., *Astra-Sjuco, A.B. v. United States Int'l Trade Comm'n*, 629 F.2d 682, 686, 207 USPQ 1, 5 (CCPA 1980) (claims must be construed in light of specification).

But this court has said, "To imbue one of ordinary skill in the art with knowledge of the invention in suit; when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore*, 721 F.2d at 1553, 220 USPQ at 312-13. It is essential that "the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made ... to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *Id.* One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

#### C. Advantage Not Appreciated by the Prior Art

[3] The Board erred not only in improperly combining the Eads and Warnick references but also in failing to appreciate that the appealed claims can be distinguished over that combination. A material limitation of the claimed system is that the conversion to nitric oxide occur in the range of 600°C to 1700°C. The purpose of this limitation is to prevent nitrogen from other sources, such as the air, from being converted to nitric oxide and thereby distorting the measurement of nitric oxide derived from the nitrogen compounds of the sample.

The claimed nitric oxide conversion temperature is not disclosed in Warnick. Although Eads describes a preferred temperature of 675°C to 725°C, the purpose of this range is different from that of Fine. Eads requires the 675°C to 725°C range because it affords a temperature low enough to avoid formation of unwanted sulfur trioxide, yet high enough to avoid formation of unwanted sulfides. Fine's temperature range, in contrast, does not seek to avoid the formation of sulfur compounds or even nitrogen compounds. It enables the system to break down the nitrogen compounds of the sample while avoiding the destruction of background nitrogen gas. There is a partial overlap, of course, but this is mere happenstance. Because the purposes of the two temperature ranges are entirely unrelated, Eads does not teach use of the claimed range. *See In re Geiger*, 815 F.2d at 688, 2 USPQ2d at 1278. The Board erred by concluding otherwise.

#### D. Unexpected Results

Because we reverse for failure to establish a *prima facie* case of obviousness, we need not reach Fine's contention that the Board

failed to accord proper weight to the objective evidence of unexpected superior results. *Id.*

#### E. The "Flame" Claims

[4] Claims 62, 68, 69, 79, 85 and 86 relate to the oxygen-rich flame conversion means of the claimed invention. These "flame" claims depend from either apparatus claim 60 or method claim 77. Dependent claims are non-obvious under section 103 if the independent claims from which they depend are nonobvious. *Hartness Int'l, Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108, 2 USPQ2d 1826, 1831 (Fed. Cir. 1987); *In re Abele*, 684 F.2d 902, 910, 214 USPQ 682, 689 (CCPA 1982); *see also In re Sernaker*, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). In view of our conclusion that claims 60 and 77 are nonobvious, the dependent "flame" claims are also patentable.

#### Conclusion

The Board's decision affirming the Examiner's rejection of claims 60, 62, 63, 68, 69, 77, 79, 80, 85 and 86 of Fine's application as unpatentable over the prior art under 35 U.S.C. §103 is **REVERSED**.

#### Smith, circuit judge, dissenting.

I respectfully dissent. I am of the firm belief that the prior art references, relied upon by the PTO to establish its *prima facie* case of obviousness, in combination teach and suggest Fine's invention to one skilled in the art. Also, I firmly believe that Fine failed to rebut the PTO's *prima facie* case. On this basis, I would affirm the board's determination sustaining the examiner's rejection, pursuant to 35 U.S.C. §103, of Fine's claims on appeal before this court.

#### Court of Appeals, Federal Circuit

Advance Transformer Co. v. Levinson

No. 87-1011

Decided January 28, 1988

#### PATENTS

##### 1. Infringement — Construction of claims (§115.03)

Patent construction — Patent Office proceedings (§125.05)

Patent construction — Prosecution history estoppel (§125.09)

Federal district court, in action for declaration of non-infringement of patent, proper-

and instead render our decision on the merits. Fed. R. App. P. 42(b). The judgment below is affirmed.

**Court of Appeals, Federal Circuit**

In re Bell

No. 92-1375

Decided April 20, 1993

**PATENTS**

**1. Patentability/Validity — Obviousness — In general (§115.0901)**

**Patentability/Validity — Obviousness — Relevant prior art — Particular inventions (§115.0903.03)**

Established relationship in genetic code between nucleic acid and protein it encodes does not make gene *prima facie* obvious over its correspondent protein in same way that closely related homologs, analogs, and isomers in chemistry may create *prima facie* case, since there are vast number of nucleotide sequences that might code for specific protein due to "degeneracy" of genetic code; gene might be obvious over correspondent protein if latter is known amino acid sequence specified exclusively by "unique" codons, but claims in application for nucleic acid molecules containing human sequences coding for human insulin-like growth factors I and II (IGF) are not obvious in view of cited prior art disclosing amino acid sequences for IGF I and II, since cited art suggests nearly infinite number of sequences, but fails to suggest which of those are human nucleic acid sequences coding for IGF.

**2. Patentability/Validity — Obviousness — Combining references (§115.0905)**

Reference disclosing general method for isolating genes, in combination with prior art disclosing amino acid sequences for insulin-like growth factors I and II (IGF), does not render obvious application claims for nucleic acid molecules containing human sequences coding for human IGF I and II, since, absent some teaching or suggestion supporting combination, obviousness is not established by combining teachings of prior art to produce claimed invention, since reference in question teaches away from invention claimed in application by emphasizing importance of "unique" codons, and since reference thus cannot be held to "fairly suggest"

that its teachings be combined with those of prior art, which discloses amino acid sequences lacking "unique" codons.

**3. Patentability/Validity — Obviousness — In general (§115.0901)**

**Patent construction — Claims — Process (§125.1309)**

Similarities between method by which applicants made claimed nucleic acid molecules, and method for isolating genes taught by prior art reference, do not render application claims obvious, since applicants claim compositions, rather than method of making them.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Graeme I. Bell, Leslie B. Rall and James P. Merryweather, serial no. 07/065,673 ("preproinsulin-like growth factors I and II"). From decision affirming examiner's final rejection of claims 25-46, applicants appeal. Reversed.

Robert P. Blackburn, Emeryville, Calif. (Debra A. Shetka and Thomas E. Ciotti, of Morrison & Foerster, Palo Alto, Calif., and Donald S. Chisum, of Morrison & Foerster, Seattle, Wash., on brief), for appellant.

Teddy S. Gron, associate solicitor (Fred E. McKelvey, solicitor, on brief; John W. Dewhirst, Lee E. Barrett, Richard E. Schafer, and Albin F. Drost, of counsel), for PTO.

Before Rich, Lourie, and Schall, circuit judges.

Lourie, J.

Applicants Graeme I. Bell, Leslie B. Rall, and James P. Merryweather (Bell) appeal from the March 10, 1992 decision of the U.S. Patent and Trademark Office (PTO) Board of Patent Appeals and Interferences, Appeal No. 91-1124, affirming the examiner's final rejection of claims 25-46 of application Serial No. 065,673, entitled "Preproinsulin-Like Growth Factors I and II," as unpatentable on the ground of obviousness under 35 U.S.C. § 103 (1988). Because the Board erred in concluding that the claimed nucleic acid molecules would have been obvious in light of the cited prior art, we reverse.

**BACKGROUND**

The claims of the application at issue are directed to nucleic acid molecules (DNA and

RNA)<sup>1</sup> containing human sequences<sup>2</sup> which code for human insulin-like growth factors I and II (IGF), single chain serum proteins that play a role in the mediation of somatic cell growth following the administration of growth hormones.<sup>3</sup>

The relevant prior art consists of two publications by Rinderknecht<sup>4</sup> disclosing amino acid sequences for IGF-I and -II and U.S. Patent 4,394,443 to Weissman et al., entitled

<sup>1</sup> A basic familiarity with recombinant DNA technology is presumed. For a general discussion, see *In re O'Farrell*, 853 F.2d 894, 895-99, 7 USPQ2d 1673, 1674-77 (Fed. Cir. 1988).

<sup>2</sup> Interchangeably referred to as "native" sequences and "genes."

<sup>3</sup> Claim 25 is conceded to be representative of the claims at issue:

A composition comprising nucleic acid molecules containing a human sequence encoding insulin-like growth factor (hIGF) substantially free of nucleic acid molecules not containing said hIGF sequence, wherein said hIGF sequence is selected from the group consisting of:

(a) 5'-GGA CCG GAG ACG CUC UGC GGG GCU GAG CUG GUG GAU GCU CUU CAG UUC GUG UGU GGA GAC AGG GGC UUU UAU UUC AAC AAG CCC ACA GGG UAU GGC UCC AGC AGU CGG AGG GCG CCU CAG ACA GGU AUC GUG GAU GAG UGC UGC UUC CGG AGC UGU GAU CUA AGG AGG CUG GAG AUG UAU UGC GCA CCC CUC AAG CCU GCC AAG UCA GCU-3', wherein U can also be T;

(b) 5'-GCU UAC CGC CCC AGU GAG ACC CUG UGC GGC GGG GAG CUG GUG GAC ACC CUC CAG UUC GUC UGU GGG GAC CGC GGC UUC UAC UUC AGC AGG CCC GCA AGC CGU GUG AGC CGU CGC AGC CGU GGC AUC GUU GAG GAG UGC UGU UUC CGC AGC UGU GAC CUG GCC CUC CUG GAG ACG UAC UGU GCU ACC CCC GCC AAG UCC GAG-3', wherein U can also be T;

(c) nucleic acid sequences complementary to (a) or (b); and

(d) fragments of (a), (b) or (c) that are at least 18 bases in length and which will selectively hybridize to human genomic DNA encoding hIGF.

The other rejected claims are apparently directed to cellular hosts transformed with the claimed nucleic acid sequences. Because their fate is dependent upon that of claim 25, neither appellant nor the Patent and Trademark Office have considered them separately and we will not do so either.

<sup>4</sup> Rinderknecht et al., *The Amino Acid Sequence of Human Insulin-like Growth Factor I and Its Structural Homology with Proinsulin*, 253 *The Journal of Biological Chemistry* 2769-76 (1978); Rinderknecht et al., *Primary Structure of Human Insulin-like Growth Factor II*, 89 *FEB Letters* 283-86 (May 1978).

"Method for Cloning Genes." Weissman describes a general method for isolating a gene for which at least a short amino acid sequence of the encoded protein is known. The method involves preparing a nucleotide probe corresponding to the known amino acid sequence and using that probe to isolate the gene of interest. It teaches that it is advantageous to design a probe based on amino acids specified by unique codons.<sup>5</sup> The Weissman patent specifically describes the isolation of a gene which codes for human histocompatibility antigen, a protein unrelated to IGF. It describes the design of the probe employed, stating that it was based on amino acids specified by unique codons.

The examiner rejected the claims as obvious over the combined teachings of Rinderknecht and Weissman. She determined that it would have been obvious, "albeit tedious," from the teachings of Weissman to prepare probes based on the Rinderknecht amino acid sequences to obtain the claimed nucleic acid molecules. According to the examiner, "it is clear from [Weissman] that the ordinary artisan knows how to find the nucleic acid when the amino acid sequence is known" and that "the claimed sequences and hosts would have been readily determinable by and obvious to those of ordinary skill in the art at the time the invention was made."

The Board affirmed the examiner's rejection, holding that the examiner had established a *prima facie* case of obviousness for the claimed sequences "despite the lack of conventional indicia of obviousness, e.g., structural similarity between the DNA which codes for IGF-I and the amino acid sequence of the polypeptide which constitutes [sic] IGF-I." Slip op. at 6. The Board reasoned that "although a protein and its DNA are not structurally similar, they are correspondingly linked via the genetic code." *Id.* at 4 n.1. In view of Weissman, the Board concluded that there was no evidence "that one skilled in the art, knowing the amino acid sequences of the desired proteins, would not have been able to predictably clone the de-

<sup>5</sup> A sequence of three nucleotides, called a codon, codes for each of the twenty natural amino acids. Since there are twenty amino acids and sixty-four possible codons, most amino acids are specified by more than one codon. This is referred to as "degeneracy" in the genetic code. The term "unique" refers to an amino acid coded for by a single codon. See *Amgen Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1207-08 n.4, 18 USPQ2d 1016, 1022 n.4 (Fed. Cir.), cert. denied, 112 S. Ct. 169 (1991).

sired DNA sequences without undue experimentation." *Id.* at 8.

The issue before us is whether the Board correctly determined that the amino acid sequence of a protein in conjunction with a reference indicating a general method of cloning renders the gene *prima facie* obvious.

### DISCUSSION

We review an obviousness determination by the Board *de novo*. *In re Vaack*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). Bell argues that the PTO has not shown how the prior art references, either alone or in combination, teach or suggest the claimed invention, and thus that it has failed to establish a *prima facie* case of obviousness.

We agree. The PTO bears the burden of establishing a case of *prima facie* obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976).

The Board supported the examiner's view that the "correspondent link" between a gene and its encoded protein via the genetic code renders the gene obvious when the amino acid sequence is known. In effect, this amounts to a rejection based on the Rinderknecht references alone. Implicit in that conclusion is the proposition that, just as closely related homologs, analogs, and isomers in chemistry may create a *prima facie* case, see *In re Dillon*, 919 F.2d 688, 696, 16 USPQ2d 1897, 1904 (Fed. Cir. 1990) (*in banc*), *cert. denied*, 111 S. Ct. 1682 (1991), the established relationship in the genetic code between a nucleic acid and the protein it encodes also makes a gene *prima facie* obvious over its correspondent protein.

[1] We do not accept this proposition. It may be true that, knowing the structure of the protein, one can use the genetic code to hypothesize possible structures for the corresponding gene and that one thus has the potential for obtaining that gene. However, because of the degeneracy of the genetic code, there are a vast number of nucleotide sequences that might code for a specific protein. In the case of IGF, Bell has argued without contradiction that the Rinderknecht amino acid sequences could be coded for by more than  $10^{36}$  different nucleotide se-

quences, only a few of which are the human sequences that Bell now claims. Therefore, given the nearly infinite number of possibilities suggested by the prior art, and the failure of the cited prior art to suggest which of those possibilities is the human sequence, the claimed sequences would not have been obvious.

Bell does not claim all of the  $10^{36}$  nucleic acids that might potentially code for IGF. Neither does Bell claim all nucleic acids coding for a protein having the biological activity of IGF. Rather, Bell claims only the human nucleic acid sequences coding for IGF. Absent anything in the cited prior art suggesting which of the  $10^{36}$  possible sequences suggested by Rinderknecht corresponds to the IGF gene, the PTO has not met its burden of establishing that the prior art would have suggested the claimed sequences.

This is not to say that a gene is never rendered obvious when the amino acid sequence of its coded protein is known. Bell concedes that in a case in which a known amino acid sequence is specified exclusively by unique codons, the gene might have been obvious. Such a case is not before us.<sup>6</sup> Here, where Rinderknecht suggests a vast number of possible nucleic acid sequences, we conclude that the claimed human sequences would not have been obvious.

[2] Combining Rinderknecht with Weissman does not fill the gap. Obviousness "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1598 (citing *ACS Hosp. Sys. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)). What a reference teaches and whether it teaches toward or away from the claimed invention are questions of fact. See *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 960-61, 220 USPQ 592, 599-600 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 835 [225 USPQ 232] (1984).

While Weissman discloses a general method for isolating genes, he appears to teach away from the claimed invention by emphasizing the importance of unique codons for the amino acids. Weissman suggests that it is generally advantageous to design a probe based on an amino acid sequence specified by unique codons, and also teaches that it is "counterproductive" to use a primer having

<sup>6</sup> We also express no opinion concerning the reverse proposition, that knowledge of the structure of a DNA, e.g., a cDNA, might make a coded protein obvious.

more than 14-16 nucleotides unless the known amino acid sequence has 4-5 amino acids coded for by unique codons. Bell, in contrast, used a probe having 23 nucleotides based on a sequence of eight amino acids, none of which were unique. Weissman therefore tends to teach away from the claimed sequences since Rinderknecht shows that IGF-I has only a single amino acid with a unique codon and IGF-II has none.

The PTO, in urging us to affirm the Board, points to the suggestion in Weissman that the disclosed method can "easily" be applied to isolate genes for an array of proteins including peptide hormones. The PTO thus argues that in view of Weissman, a gene is rendered obvious once the amino acid sequence of its translated protein is known. We decline to afford that broad a scope to the teachings of Weissman. While "a reference must be considered not only for what it expressly teaches, but also for what it fairly suggests," *In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 70 (CCPA 1979), we cannot say that Weissman "fairly suggests" that its teachings should be combined with those of Rinderknecht, since it nowhere suggests how to apply its teachings to amino acid sequences without unique codons.

We conclude that the Board clearly erred in determining that Weissman teaches toward, rather than away from, the claimed sequences. Therefore, the requisite teaching or suggestion to combine the teachings of the cited prior art references is absent, see *In re Fine*, 837 F.2d 1075, 5 USPQ2d at 1599, and the PTO has not established that the claimed sequences would have been obvious over the combination of Rinderknecht and Weissman.

[3] Finally, the PTO emphasizes the similarities between the method by which Bell made the claimed sequences and the method taught by Weissman. The PTO's focus on Bell's method is misplaced. Bell does not claim a method. Bell claims compositions, and the issue is the obviousness of the claimed compositions, not of the method by which they are made. See *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985) ("The patentability of a product does not depend on its method of production.").

### CONCLUSION

Because we conclude that the combination of prior art references does not render the claimed invention obvious, we reverse the

Board's decision affirming the examiner's rejection of claims 25-46.

**REVERSED**

### Court of Appeals, Fifth Circuit

Matrix Essentials Inc. v. Emporium Drug Mart Inc. of Lafayette

No. 91-4457

Decided April 19, 1993

### TRADEMARKS AND UNFAIR TRADE PRACTICES

1. Infringement; conflicts between marks — Likelihood of confusion — In general (§335.0301)

Infringement; conflicts between marks — Passing off (§335.07)

Retail drug store's sale, without authorization from plaintiff, of plaintiff's cosmetic products under plaintiff's mark does not give rise to cause of action for trademark infringement under Lanham Act, even though plaintiff alleges that its products are not "genuine" because they are sold in defendant's store without professional cosmetologist consultation that is supposed to be available when consumers purchase plaintiff's products, since plaintiff has failed to show any consumer confusion or deception, nor does drug store's sale of plaintiff's products violate Lanham Act's Section 43(a), 15 USC 1125(a), since that section does not provide cause of action merely for unauthorized stocking and sale of manufacturer's products, absent more culpable conduct by seller.

Appeal from the U.S. District Court for the Western District of Louisiana, Scott, J.

Action by Matrix Essentials Inc. against Emporium Drug Mart Inc. of Lafayette, d/b/a Drug Emporium, for trademark infringement and unfair competition, in which Emporium filed counterclaim alleging anti-trust violations. From federal district court's decision granting summary judgment dismissing both plaintiff's claims and counterclaim, parties cross-appeal. Affirmed.

Louis A. Colombo, of Baker & Hostetler, Cleveland, Ohio; Theresa M. Gallion, of Baker & Hostetler, Orlando, Fla.; and Louis Simon, II, of Laborde & Neuner, Lafayette, La., for plaintiff.

that FICA is not an appropriate tax within the meaning of the Vaccine Act because Corey could never receive the benefits for which he was taxed.

In addition, Ms. Euken argues that there are exceptions to the rule that FICA tax is deducted from the wages of workers. Where an alternative retirement system is available, according to Ms. Euken, under certain circumstances a worker can opt out of the Social Security system and FICA tax is no longer due. She contends this is essentially the case here because the Vaccine Injury Compensation Trust Fund will provide for Corey, not the Social Security system.

While we are sympathetic to the arguments of Ms. Euken, under a proper construction of the statute they are beside the point. The relevant question is whether workers in the private sector would normally have FICA taxes deducted from their average gross weekly earnings. While there may be narrow exceptions to the rule, it is beyond dispute that the vast majority of workers in the private sector pay FICA taxes from their gross earnings. See 26 U.S.C. § 3101(a) and (b). Moreover, the Vaccine Act, by specifying an objective standard for determining the net amount of the loss of earnings to be awarded unrelated to what any petitioner might be expected to earn, precludes consideration of Corey's particular status. Under these circumstances, the argument that Corey would not receive any Social Security benefits is simply not pertinent to the question of whether FICA taxes are appropriate taxes to deduct from the average gross weekly earnings of a private sector worker. Because we determine that Ms. Euken's arguments, even if the premises underlying them are accepted as true, are not persuasive, we need not consider the Secretary's rebuttal to the contention that an individual such as Corey could opt out of the Social Security system.

Accordingly, we conclude that FICA tax, like federal and state income taxes, is an appropriate tax to deduct in determining a lost earnings award under the Vaccine Act. We reverse the decision of the Claims Court

and remand this case for calculation of an award consistent with this opinion.

**REVERSED and REMANDED.**



**ELECTRO MEDICAL SYSTEMS,  
S.A., Plaintiff-Appellant,**

v.

**COOPER LIFE SCIENCES, INC., Dentsply International Inc., and Dentsply Research & Development Corp., Defendants-Appellees.**

No. 94-1003.

United States Court of Appeals,  
Federal Circuit.

Sept. 12, 1994.

Foreign manufacturer sought declaratory judgment of invalidity and noninfringement of defendant dental equipment manufacturer's patents relating to air abrasive equipment used to clean teeth. The United States District Court for the Eastern District of New York, John Lynn Caden, United States Magistrate Judge, found all claims in suit to be infringed and not invalid, and, based on finding of willful infringement, awarded double damages and attorney fees in addition to compensatory damages. Foreign manufacturer appealed. The Court of Appeals, Lourie, Circuit Judge, held that: (1) dental device which discharged substantially unpressurized flow of liquid along with pressurized gas was neither anticipated nor obvious; (2) foreign manufacturer's device infringed various claims of patents held by defendant manufacturer; and (3) finding that foreign manufacturer willfully infringed upon defendant's patents was clearly erroneous, so increased damages and attorney fees were not warranted.

Affirmed in part and reversed in part.

**1. Patents**  $\S$ 312(4)

Invalidity of patent on basis that it was anticipated by previous patent must be proved by clear and convincing evidence. 35 U.S.C.A.  $\S$  102(b).

**2. Patents**  $\S$ 66(1.2)

Anticipation under patent statute requires presence in single prior art disclosure of each and every element of claimed invention and is question of fact subject to review under clearly erroneous standard. 35 U.S.C.A.  $\S$  102(b).

**3. Patents**  $\S$ 66(1.19)

Dental device for delivering gas, abrasive, and liquid to surface of tooth as unpressurized liquid "curtain" surrounding pressurized jet of abrasive-laden gas was not anticipated by prior patent which did not disclose substantially unpressurized flow of liquid. 35 U.S.C.A.  $\S$  102(b).

**4. Patents**  $\S$ 314(5)

Obviousness of subject matter of patent is question of law, based on underlying factual inquiries, which are subject to clearly erroneous standard of review. 35 U.S.C.A.  $\S$  103.

**5. Patents**  $\S$ 16.14

Patent for dental device which delivered gas, abrasive, and liquid to surface of tooth as unpressurized liquid "curtain" surrounding pressurized jet of abrasive-laden gas was not invalid for obviousness, in light of scope and content of prior art, differences between claims and prior art, level of ordinary skill in art, and objective evidence of nonobviousness, including long-felt but unsatisfied need, failure of others, commercial success, copying, and tribute by others. 35 U.S.C.A.  $\S$  103.

**6. Patents**  $\S$ 226.6

Determination of patent infringement requires two-step analysis: claim must be interpreted to determine its scope and meaning, and it must be determined whether accused device is within scope of properly interpreted claim.

**7. Patents**  $\S$ 324.5

Scope and meaning of patent claim is issue of law reviewed de novo.

**8. Patents**  $\S$ 324.55(2)

Whether allegedly infringing device is within scope of properly interpreted patent claim is question of fact, reviewed for clear error.

**9. Patents**  $\S$ 226.7, 235(2)

Claim in patent for dental equipment which delivered stream of abrasive-laden particles to point of use upon surface of tooth by first nozzle, and stream of liquid "adjacent" to point of use by second nozzle, did not require that adjacent streams be separate and independent, thus, claim was infringed by device which delivered combined stream of gas, particles, and liquid to tooth surface.

**10. Patents**  $\S$ 235(2)

Claim in patent for dental equipment which delivered stream of abrasive-laden particles and stream of liquid "converging toward each other," for purpose of cleaning teeth, did not require that streams converge at or near surface of tooth, thus, claim was infringed by device which delivered streams of gas, particles, and liquid that converged immediately after discharge.

**11. Patents**  $\S$ 101(4), 168(2.1)

When meaning of words in patent claim is disputed, specification and prosecution history can provide relevant information about scope and meaning of claim.

**12. Patents**  $\S$ 167(1.1)

Patent claims are not to be interpreted by adding limitations appearing only in specification; thus, although specifications may well indicate that certain embodiments are preferred, particular embodiments appearing in specification will not be read into claims when claim language is broader than such embodiments.

**13. Patents**  $\S$ 235(2)

Claim in patent for method of effecting abrasion of tooth using "water soluble" particles discharged by dental cleaning device, did not require that, under actual operating con-

ditions, particles dissolve immediately upon contact with water before hitting tooth; thus, claim was infringed by device which used abrasive particles with insoluble coating that cracked upon impact with tooth and dissolved upon tooth's surface.

#### 14. Patents ⇨235(2)

Claim in patent for dental device that effected abrasion of tooth and released substantially unpressurized flow of liquid as continuous liquid curtain surrounding pressurized jet of particle-laden gas did not require that "solid" curtain of liquid be created at point water was released and was thus infringed by device which, according to expert testimony and experiments conducted at trial, emitted combined spray surrounded by water curtain.

#### 15. Patents ⇨324.5

Award of increased damages or attorney fees to patentee from infringer is reviewed for abuse of discretion. 35 U.S.C.A. §§ 284, 285.

#### 16. Patents ⇨319(3), 325.11(2.1)

"Willfulness" of patent infringement is shown when, upon consideration of totality of circumstances, clear and convincing evidence establishes that infringer acted in disregard of patent and that infringer had no reasonable basis for believing it had right to engage in infringing acts.

See publication Words and Phrases for other judicial constructions and definitions.

#### 17. Patents ⇨324.55(2)

Existence of willful patent infringement is finding of fact, which will not be disturbed on appeal unless clearly erroneous.

#### 18. Patents ⇨227

Law imposes affirmative duty of due care to avoid infringement of known patent rights of others; duty includes seeking and obtaining competent legal advice before engaging in activity that may result in infringement.

#### 19. Patents ⇨227

Inference that opinion of attorney, rendered prior to conduct of client that infringed another's patent, was unfavorable, does not

preclude consideration of other relevant factors in determining whether infringement was willful.

#### 20. Patents ⇨227

Possession of favorable opinion of counsel rendered prior to client's infringement of another's patent is not essential to avoid determination that infringement was willful, but is important factor to be considered.

#### 21. Patents ⇨312(1.1)

Assertion of attorney-client privilege as to opinion of attorney rendered prior to client's infringement of another's patent does not raise irrebuttable presumption of willfulness.

#### 22. Patents ⇨319(3), 325.11(2.1)

Although foreign manufacturer that infringed patents of dental equipment manufacturer refused to produce opinion of counsel rendered prior to infringing conduct, infringement was not willful, where foreign manufacturer waited six years before selling accused product, while seeking declaration that product was noninfringing, only sold products in face of motions to dismiss for lack of justiciable controversy, and had basis for its arguments on the merits; thus, award of increased damages and attorney fees, which was based on finding of willfulness, could not stand. 35 U.S.C.A. §§ 284, 285.

Preston Moore, Attorney, Morrison & Foerster, San Francisco, CA, argued, for plaintiff-appellant. With him on the brief were Grant L. Kim and James R. Shay.

Dale M. Heist, Attorney, Woodcock, Washburn, Kurtz, Mackiewicz and Norris, Philadelphia, PA, argued, for defendants-appellees. With him on the brief were Albert W. Preston, Jr., John P. Donohue, Jr., Thomas R. Boland and Ellen A. Efros. Of counsel was Edward J. Hanson, Jr.

Before MAYER, LOURIE, and RADER, Circuit Judges.

LOURIE, Circuit Judge.

Electro Medical Systems, S.A. ("EMS") appeals from a judgment of the United

States District Court for the Eastern District of New York holding U.S. Patents 3,882,638, 3,972,123, and 4,412,402 infringed and not invalid, and awarding increased damages and attorney fees based on its finding of willful infringement. *Electro Medical Sys., S.A. v. Cooper Life Sciences, Inc.*, Civ. Action No. CV-86-0607 (E.D.N.Y. Aug. 25, 1993) (final judgment order).<sup>1</sup> We affirm-in-part and reverse-in-part.

### BACKGROUND

The three patents in suit<sup>2</sup> relate to equipment for delivering gas, abrasive, and liquid to the surface of a tooth in order to remove plaque and stain without damaging the tooth surface. The devices claimed in the '638 and '123 patents direct a stream of abrasive-laden gas to a tooth surface and a stream of liquid to the tooth surface adjacent to the target area of the abrasive-laden gas stream. After the abrasive particles impact the tooth, they are taken up by the liquid and then removed in suspension form through the use of a common suction tube. The '402 patent relates to an improved device using abrasive particles that are water soluble, wherein the device delivers air, abrasive, and liquid to a tooth surface as a continuous liquid "curtain" surrounding a pressurized jet of abrasive-laden gas.

Appellant EMS is a Swiss manufacturer of dental equipment, distributing products in over fifty different countries. In 1984, EMS filed suit against appellees Cooper Life Sciences Incorporated, Dentsply International Incorporated, and Dentsply Research & Development Corporation (collectively "Dentsply") in the Northern District of Illinois, seeking a declaratory judgment of invalidity and non-infringement of patents relating to air abrasive equipment used to clean teeth, including those at issue here. The '638 and '123 patents are owned by Cooper and

exclusively licensed to Dentsply. The '402 patent is owned by Dentsply.

Despite EMS's allegations that Dentsply had asserted foreign counterpart patents against EMS and its distributors and had threatened to sue potential United States distributors of EMS's products, Dentsply moved to dismiss for lack of a justiciable controversy. Dentsply contended that it did not intend to charge EMS with infringement of the U.S. patents and that EMS lacked the capacity and intent to sell its products in the United States. The Northern District of Illinois denied Dentsply's motion to dismiss.

In 1986, on motion of the defendants, the Illinois court transferred the claims against Cooper to the Eastern District of New York for reasons of convenience, and severed and stayed the claims against Dentsply because Dentsply had no "presence" in New York. Subsequently, Dentsply was allowed to join the New York action because it by then had acquired rights to Cooper's patent.

Dentsply then initiated an International Trade Commission (ITC) proceeding against EMS and others for alleged patent infringement. After discovery was nearly completed, Dentsply moved to dismiss its ITC claims against EMS, which the ITC did, with prejudice.

In November of 1987, Dentsply again moved to dismiss the district court action, claiming that there was no justiciable controversy. As part of its motion, Dentsply noted that

[at a status conference in September of 1987, the magistrate] strongly recommended that, if EMS truly were interested in a determination of the issues of patent validity and infringement, EMS undertake sufficient acts in the United States to create an actual controversy. [The magistrate] made clear his view that, absent at least one sale by EMS in the United States, the court would dismiss the in-

1. The final judgment order dated August 25, 1993 is based on a memorandum and order dated August 26, 1992 ("*Electro I*"), a memorandum and order on reconsideration dated May 13, 1993 ("*Electro II*"), and a memorandum and order on reconsideration dated August 6, 1993 ("*Electro III*").

2. The '638 and '123 patents, both entitled "Air-Abrasive Prophylaxis Equipment," issued in 1975 and 1976, respectively, naming Dr. Robert Black as inventor. The '402 patent, entitled "Equipment and Method for Delivering an Abrasive-Laden Gas Stream," issued in 1983, naming Ben J. Gallant as inventor.

fringement issue for lack of subject matter jurisdiction. Obviously, the same conclusion applies to the issue of patent validity. Mem. of Points and Auth. of Def. in Support of Motion to Dismiss. The court again denied Dentsply's motion.

In 1990, six years after commencement of this litigation, after the completion of discovery and three months before the scheduled trial, Dentsply threatened to bring a third motion to dismiss for lack of a justiciable controversy. In response, EMS sold six products. Dentsply then amended its answer to add a counterclaim for patent infringement, alleging that EMS was a willful infringer. EMS stipulated in a pretrial order that it "[would] not waive any claim of attorney/client privilege in defense of any allegation of willful infringement or demand for counsel fees." Invoking the privilege at trial, EMS declined to disclose the substance of any advice it received from its counsel prior to the United States sales.

After a full bench trial, the court issued a decision finding all of the claims in suit to be infringed and not invalid, and awarding \$8,752.00 in compensatory damages based on EMS's six sales. Drawing an adverse inference from EMS's refusal to produce an opinion of counsel, the court found that EMS was a willful infringer, and awarded double damages and \$942,528.90 in attorney fees. The award was affirmed on reconsideration. EMS appeals from the judgment of validity and infringement and from the award of increased damages and attorney fees.

## DISCUSSION

### 1. *Validity*

[1, 2] At trial, EMS challenged the validity of claim 20 of the '402 patent on the basis that it was anticipated by U.S. Patent 2,405,854 to Ruemelin under 35 U.S.C. § 102(b). Anticipation must be proved by clear and convincing evidence. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 632, 2 USPQ2d 1051, 1053 (Fed.Cir.), *cert. denied*, 484 U.S. 827, 108 S.Ct. 95, 98 L.Ed.2d 56 (1987). Anticipation under 35 U.S.C. § 102(b) requires the presence in a single prior art disclosure of each and every ele-

ment of a claimed invention, *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 USPQ2d 1766, 1767 (Fed.Cir.1987), *cert. denied*, 484 U.S. 1007, 108 S.Ct. 702, 98 L.Ed.2d 653 (1988), and is a question of fact subject to review under the clearly erroneous standard, *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1574, 227 USPQ 177, 179 (Fed.Cir.1985).

[3] The court determined that EMS had failed to introduce clear and convincing evidence that the Ruemelin patent discloses every element of claim 20. Specifically, the court found that the Ruemelin patent did not disclose a substantially unpressurized flow of liquid or a continuous liquid curtain surrounding the pressurized jet of particle-laden gas. *Electro I*, slip op. at 55. EMS asserts that these features are "inherent" in the Ruemelin patent because, although Ruemelin discloses a blasting and spraying gun utilizing pressurized liquid, the Ruemelin device "could be set to any water pressures."

We do not agree that the subject matter of the claim was anticipated. "The mere fact that a certain thing *may result* from a given set of circumstances is insufficient to prove anticipation." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268-69, 20 USPQ2d 1746, 1749 (Fed.Cir.1991) (quoting *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA1981)) (emphasis added). EMS was required to prove that an unpressurized flow is necessarily present in the Ruemelin disclosure, and that it would be so recognized by persons of ordinary skill. *Id.* at 1268, 20 USPQ2d at 1749. EMS did not discharge its burden; thus, the district court properly concluded that EMS failed to prove invalidity of claim 20.

[4, 5] EMS also challenged the validity of claims 4, 12, 16, and 21 of the '402 patent on the basis that the subject matter of the claims would have been obvious under 35 U.S.C. § 103. Obviousness is a question of law, based on underlying factual inquiries, which are subject to the clearly erroneous standard of review. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568-69, 1 USPQ2d 1593, 1597-98 (Fed.Cir.), *cert. denied*, 481 U.S. 1052, 107 S.Ct. 2187, 95

L.Ed.2d 843 (1987). In a thorough opinion, the magistrate undertook an analysis of the obviousness question, carefully considering the scope and content of the prior art, the differences between the claims and the prior art, the level of ordinary skill in the art, and objective evidence of non-obviousness, including long-felt but unsatisfied need, failure of others, commercial success, copying, and tribute by others. See *Graham v. John Deere Co.*, 383 U.S. 1, 17, 86 S.Ct. 684, 693-94, 15 L.Ed.2d 545 (1966). The court concluded that EMS had not met its burden of demonstrating by clear and convincing evidence that the claimed subject matter would have been obvious to one of ordinary skill in the art.

EMS does not challenge the court's underlying findings here; rather, it merely asserts that "if [the claims] were construed for validity as the district court construed [them] for infringement[, they would be] invalid under 35 U.S.C. § 103." We have considered this assertion and find it unpersuasive. EMS has not convinced us of reversible error in the court's determination that the '402 patent is not invalid.

## 2. Infringement

The court found that the accused EMS device infringed claims 2 and 3 of the '638 patent, claim 4 of the '123 patent, and claims 4, 12, 16, 20, and 21 of the '402 patent. EMS asserts that the judgment of infringement with respect to the '638 and '123 patents was based on erroneous claim interpretation. With respect to the '402 patent, EMS asserts that the judgment of infringement was based on erroneous claim interpretation and clearly erroneous fact finding.

3. In its entirety, with relevant portions of its parent claim added, claim 2 reads:

[A system for handling and feeding abrasive particles comprising means for mixing abrasive particles with a gaseous stream, first nozzle means for delivering the abrasive laden stream to a point of use, controllable supply means for starting and stopping the abrasive laden stream, second nozzle means in predetermined relation to the first nozzle means for delivering a stream of liquid adjacent said point of use, controllable supply means for starting and stopping the stream of liquid and control means for the supply means including means providing for substantially concurrently

[6-8] A determination of patent infringement requires a two-step analysis. First, a claim must be interpreted to determine its scope and meaning; second, it must be determined whether an accused device is within the scope of the properly interpreted claim. *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1578, 6 USPQ2d 1557, 1559 (Fed.Cir.1988). The first step is an issue of law, reviewed *de novo*, and the second is a question of fact, reviewed for clear error. *Minnesota Mining & Mfg., Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1570, 24 USPQ2d 1321, 1330 (Fed.Cir.1992). "A finding is 'clearly erroneous' when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." *United States v. United States Gypsum Co.*, 333 U.S. 364, 395, 68 S.Ct. 525, 542, 92 L.Ed. 746 (1948).

[9, 10] Claim 2 of the '638 patent is directed to a system for handling and feeding abrasive particles, and recites a "first nozzle means for delivering the abrasive-laden stream to a point of use" and a "second nozzle means in predetermined relation to the first nozzle means for delivering a stream of liquid adjacent said point of use," the first and second nozzle means being integrated in a common handpiece.<sup>3</sup> Claim 4 of the '123 patent recites a dental handpiece for use in the cleaning of teeth, and includes "two fluid discharge orifices . . . being positioned and oriented to discharge streams of the abrasive-laden gas and liquid in the same general direction transversely of the hand grip, with the streams of abrasive-laden gas and liquid converging toward each other."<sup>4</sup>

starting and stopping of the discharge of the gaseous and liquid streams from the nozzle means,] in which the first and second nozzle means are integrated in a common handpiece. Claim 3 contains the following relevant language:

second nozzle means for receiving heated water from the water heater and for delivering a stream of heated water substantially to said point of use . . .

4. In its entirety, claim 4 reads:

A dental handpiece for use in the cleaning of teeth, the handpiece comprising an elongated

EMS argues that the "second nozzle means" of the '638 claims must deliver a stream of liquid to the tooth surface as a stream *separate and independent* from the abrasive-laden stream delivered by the first nozzle means, which is different from the accused device. Furthermore, EMS argues that the '123 claim only covers a device in which the streams of liquid and abrasive-laden gas converge *at or near the surface of the tooth*, unlike the accused device. EMS relies upon the specifications, which it asserts disclose devices consistent with its asserted claim interpretation. Also, EMS points to the prosecution history of the '638 patent, in which the patentee emphasized that the "nozzle means provid[es] for delivery of the stream of liquid to a point adjacent to the point to which the abrasive is directed," and to the prosecution history of the '123 patent, in which the "convergence" of the streams was emphasized.

Because the EMS device delivers a combined stream of gas, particles, and liquid to the tooth surface, EMS asserts that the device does not infringe the '638 patent as EMS interprets the claims. Furthermore, EMS contends that the accused device delivers streams that converge at the edge of a first nozzle, immediately after discharge and before contact with the tooth's surface, and thus it does not infringe the '123 patent. Dentsply contends that the court properly interpreted the claims and properly found infringement.

[11, 12] Claims speak to those skilled in the art. See *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 986, 6 USPQ2d 1601, 1604 (Fed.Cir.1988). When the meaning of words in a claim is in dispute, the specification and prosecution history can provide relevant information about the scope and meaning of the claim. *Id.* at 986, 6 USPQ2d at 1604. However, claims are not to be inter-

preted by adding limitations appearing only in the specification. See *Intervet Am. v. Kee-Vet Lab.*, 887 F.2d 1050, 1053, 12 USPQ2d 1474, 1476 (Fed.Cir.1989) ("No matter how great the temptations of fairness or policy making, courts do not rework claims. They only interpret them.") (quoting with approval *Autogiro Co. of Am. v. United States*, 181 Ct.Cl. 55, 384 F.2d 391, 395-96, 155 USPQ 697, 701 (1967)). Thus, although the specifications may well indicate that certain embodiments are preferred, particular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments. See *Specialty*, 845 F.2d at 987, 6 USPQ2d at 1605 ("Where a specification does not require a limitation, that limitation should not be read from the specification into the claims.").

Upon review of the two specifications and prosecution histories, we conclude that the court did not err when it determined that the term "adjacent" does not necessarily mean "separate and independent." The '638 claim was properly interpreted to cover a device that delivers a combined air, abrasive, and liquid stream surrounded by a liquid stream such that the abrasive is delivered to a target area on the tooth surface and liquid is delivered adjacent to that area. Similarly, the court properly concluded that the term "converge" does not necessarily mean "converge at the surface of the tooth," and that the claims were properly interpreted to cover a device having streams converging before they reach the tooth surface. The prosecution history does not indicate otherwise. We thus see no error in the court's interpretation of the claims of the '638 and '123 patents and hence its infringement determination.

[13, 14] Claims 4 and 20 are representative of the claims at issue in the '402 patent. Claim 4 recites a method for effecting abrasion using "water soluble" particles.<sup>5</sup> Claim

hand grip having two separate fluid passages extended longitudinally therethrough providing respectively for supply of abrasive laden gas and of a liquid, the hand grip further having a head at one end thereof with two fluid discharge orifices and with two passages respectively and separately connecting said longitudinal passages with the fluid discharge orifices, the orifices being positioned and ori-

ented to discharge streams of the abrasive laden gas and liquid in the same general direction transversely of the hand grip, with the streams of abrasive laden gas and liquid converging toward each other.

5. With relevant portions of its parent claim added, claim 4 reads:

20 recites a device for effecting abrasion including "means for releasing a substantially unpressurized flow of [ ] liquid as a *continuous liquid curtain* surrounding [a] pressurized jet of particle-laden gas." <sup>6</sup> EMS argues that neither the "water soluble" nor the "continuous liquid curtain" limitation is satisfied by the accused device.

EMS contends that the meaning of the term "water soluble," as used in the patent, requires that under actual operating conditions the particles dissolve immediately upon contact with the water before hitting the tooth. EMS further contends that the "means for releasing liquid as a liquid curtain" must create a "solid" curtain of liquid at the point the water is released. EMS maintains that the court clearly erred in determining that the abrasive particles used by the EMS device were soluble within the meaning of the claims because they include an insoluble coating that "cracks" upon impact with the tooth so that the particles will dissolve only at the tooth's surface. EMS further maintains that the court clearly erred in determining that the EMS device includes a "means for releasing liquid as a liquid curtain" as that phrase is properly interpreted.

Upon review of the '402 specification and prosecution history, we conclude that the court properly construed the claims as not requiring that the particles used be soluble within the area between the nozzle and the tooth and as not requiring that the curtain of water be a "solid" curtain. *See Specialty*, 845 F.2d at 981, 6 USPQ2d at 1601; *Intervet*, 887 F.2d at 1050, 12 USPQ2d at 1474.

The court's findings of infringement of the '402 patent were based primarily on expert testimony and experiments conducted during the trial. As the court noted, EMS

[A method for effecting abrasion comprising delivering from a nozzle orifice a pressurized jet of particle-laden gas, with resultant development of an ambient induction zone, releasing a substantially unpressurized flow of the liquid into an annular space surrounding the ambient induction zone and thereby establish a combined stream of gas, particles and liquid, and directing the combined stream against the surface to be abraded,] in which the particles are water soluble and the liquid is water.

"performed no tests[, with the exception of an unreliable courtroom demonstration,] to rebut the findings made by Dentsply's expert. [EMS's] lack of 'hard' evidence ... and the plethora of opinion testimony unsupported by any backup evidence, [were] largely unpersuasive." *Electro I*, slip op. at 18-19. Based on the expert testimony and experiments, the court found that the particles used in the EMS device were indeed soluble within the meaning of the claims and that "[t]he inner combined spray emitted from the EMS products' nozzle is surrounded by a water curtain." We conclude that EMS has not shown the court's claim interpretation to be in error or its infringement findings to be clearly erroneous.

### 3. Increased Damages and Attorney Fees

After determining that the accused device infringed Dentsply's patents, the court assessed actual damages of \$8,752.00 resulting from the six sales in 1990. The court drew an adverse inference from EMS's refusal to produce an opinion of counsel, stating

Based upon EMS' refusal to disclose the substance of the opinion of its counsel, despite Dentsply's charge of willful infringement, as well as EMS' failure to enter the U.S. market for six years after obtaining counsel, the court concludes that it must draw an adverse inference that the opinion was unfavorable. EMS eventually proceeded with knowledge of the unfavorable view of counsel, and thus engaged in willful infringement of the patents.

*Electro I*, slip op. at 79. The court thus held that the infringement was willful, awarding increased damages and \$942,528.90 in attorney fees. On reconsideration of the award, the court affirmed. *Electro II*, slip op. at 20. After the original and reconsideration orders

### 6. Claim 20 reads:

Equipment for effecting abrasion comprising: nozzle means for delivering a pressurized jet of gas laden with particles, with resultant development of an ambient induction zone, and means for delivering a liquid into said induction zone comprising means for releasing a substantially unpressurized flow of the liquid as a continuous liquid curtain surrounding the pressurized jet of particle-laden gas.

were issued, EMS offered to waive the attorney-client privilege and disclose the advice of its counsel. The district court declined EMS's offer as untimely.

EMS argues that the award of increased damages and attorney fees must be reversed because it is based on a clearly erroneous finding of willfulness. Dentsply asserts that the court properly awarded such damages and argues that "EMS could have avoided willfulness and . . . attorney fees . . . had they shown conviction in their case by either selling the product or by waiving privilege." We agree with EMS.

[15] In appropriate cases, a patentee may recover from an infringer increased damages and attorney fees. 35 U.S.C. §§ 284, 285 (1988); *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 654, 103 S.Ct. 2058, 2061-62, 76 L.Ed.2d 211 (1983). The decision whether to award increased damages or attorney fees is reviewed for an abuse of discretion. *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 926 F.2d 1161, 1165 n. 2, 17 USPQ2d 1922, 1925 n. 2 (Fed.Cir.1991). Such awards have been made when the infringement was found to be willful. *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826, 23 USPQ2d 1426, 1435 (Fed.Cir.1992).

[16, 17] Willfulness is shown when, upon consideration of the totality of the circumstances, clear and convincing evidence establishes that the infringer acted in disregard of the patent, that the infringer had no reasonable basis for believing it had a right to engage in the infringing acts. See *American Medical Sys. Inc. v. Medical Eng'g Corp.*, 6 F.3d 1523, 1530, 28 USPQ2d 1321, 1325 (Fed. Cir.1993), *cert. denied*, — U.S. —, 114 S.Ct. 1647, 128 L.Ed.2d 366 (1994). The existence of willful infringement is a finding of fact, which will not be disturbed on appeal unless it is clearly erroneous. *Id.* at 1530, 28 USPQ2d at 1325.

[18-20] The law imposes an affirmative duty of due care to avoid infringement of the known patent rights of others. *L.A. Gear Inc. v. Thom McAn Shoe Co.*, 988 F.2d 1117, 1127, 25 USPQ2d 1913, 1920 (Fed.Cir.), *cert. denied*, — U.S. —, 114 S.Ct. 291, 126 L.Ed.2d 240 (1993). Usually, this duty in-

cludes seeking and obtaining competent legal advice before engaging in activity that may result in infringement. *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1389-90, 219 USPQ 569, 576 (Fed.Cir. 1983). Accordingly, we have held that when an infringer refuses to produce an exculpatory opinion of counsel in response to a charge of willful infringement, an inference may be drawn that either no opinion was obtained or, if an opinion was obtained, it was unfavorable. See, e.g., *Fromson v. Western Litho Plate & Supply Co.*, 853 F.2d 1568, 1572-73, 7 USPQ2d 1606, 1611 (Fed.Cir.1988); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1579-80, 230 USPQ 81, 91 (Fed.Cir. 1986), *cert. denied*, 479 U.S. 1034, 107 S.Ct. 882, 93 L.Ed.2d 836 (1987). However, there are no hard and fast rules in respect of willfulness. *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1109, 231 USPQ 185, 191 (Fed.Cir.1986); *Studiengesellschaft Kohle, M.B.H. v. Dart Indus.*, 862 F.2d 1564, 1573, 9 USPQ2d 1273, 1282 (Fed.Cir.1988) ("The consequences of a finding of willful infringement being serious, such a finding . . . is to be made only after due consideration of the totality of the circumstances."). An inference that an opinion was unfavorable does not foreclose consideration of other relevant factors. Possession of a favorable opinion of counsel is not essential to avoid a willfulness determination; it is only one factor to be considered, albeit an important one. *Kloster*, 793 F.2d at 1579, 230 USPQ at 91 (though it is an important consideration, the absence of an opinion of counsel alone does not mandate an ultimate finding of willfulness).

[21] EMS had a right to assert the attorney-client privilege. See *Quantum Corp. v. Tandon Corp.*, 940 F.2d 642, 644 (Fed.Cir. 1991) (attorney-client privilege is a "basic, time-honored privilege [warranting] careful consideration."). As we previously have not-

[a]n accused infringer . . . should not, without the trial court's careful consideration, be forced to choose between waiving the privilege in order to protect itself from a willfulness finding, in which case it may risk prejudicing itself on the question of

liability, and maintaining the privilege, in which case it may risk being found to be a willful infringer if liability is found.

*Id.* (suggesting that court inspect *in camera* privileged communications to determine if separate trial on willfulness issue is appropriate).<sup>7</sup> Assertion of the privilege does not raise an irrebuttable presumption of willfulness. Such a rule would not accommodate consideration of other facts, nor would it respect the right of a party to assert the privilege.

[22] The district court here was free to draw an inference adverse to EMS when, asserting the attorney-client privilege, EMS refused to produce an opinion of counsel. However, the court erred because it failed to consider the evidence in its entirety and erroneously evaluated the significance of EMS's six-year delay in entering the market.

The district court reasoned that EMS's decision to wait six years before it sold the accused product supported the inference that EMS possessed an unfavorable opinion of counsel. This suggests that EMS was pursuing protracted litigation and running up large fees to the detriment of its opponents, while believing that it had a losing case and before it infringed. If that were true, such conduct could have been dealt with by sanctions for bad-faith litigation or even dismissal for lack of a case or controversy, but it would not have been willful infringement. There was no finding of misconduct in this case, nor did the district court choose to dismiss the suit. Even if it had an unfavorable opinion of counsel, we agree with EMS that under the circumstances, its decision to defer sale of the accused product was more consistent with satisfying its duty of due care to avoid or minimize infringement than with willfulness. EMS sought a judicial determination of the contested issues before selling the accused product. It was only in the face of three motions to dismiss, two denied and one threatened, and in light of the magistrate's statement that, "absent at least one sale by EMS in the United States, the court would dismiss the infringement issue for lack of subject matter jurisdiction," that EMS sold

six devices. The infringement therefore was *de minimis* and was accomplished only to avoid dismissal and ensure prompt adjudication, not as part of its business to generate income. EMS's conduct throughout the litigation was to seek resolution of the controversy. See *Minnesota Mining & Mfg., Co. v. Norton Co.*, 929 F.2d 670, 673, 18 USPQ2d 1302, 1305 (Fed.Cir.1991). This case does not involve a "wanton disregard of the patentee's patent rights." See *Read*, 970 F.2d at 826, 23 USPQ2d at 1435.

On reconsideration, the district court further stated that "EMS's failure to produce an exculpatory legal opinion gives rise to the inference that it proceeded with this lawsuit against the advice of counsel. It is on this basis that the findings of willfulness and 'an exceptional case' were made." *Electro II*, slip op. at 20. However, filing suit is not willful infringement. Moreover, EMS testified as to its good faith belief that the patents were either invalid or not infringed. Although we have affirmed the court's determinations of infringement and validity, it is clear to us that EMS had a basis for its arguments on the merits. Dentsply itself agreed at oral argument that "there were definitely arguments" with respect to the issues in this case. The questions were indeed close, and this was another relevant factor overlooked in the assessment of willfulness. See *Paper Converting Mach. Co. v. Magna-Graphics Corp.*, 745 F.2d 11, 20, 223 USPQ 591, 597-98. (Fed.Cir.1984) (willfulness finding is generally inappropriate when the infringer mounts a good faith and substantial challenge to the existence of infringement). The facts here do not constitute clear and convincing evidence of willfulness. Upon review of the evidence in its entirety, we are left with the definite and firm conviction that the court erred in finding willful infringement.

"The paramount determination in deciding to grant enhancement and the amount thereof is the egregiousness of the defendant's conduct based on all the facts and circumstances." *Read*, 970 F.2d at 826, 23 USPQ2d at 1435. Absent willful infringement, there is no basis in this case for increased dam-

7. In the present case, no motion was made to

sever liability from damages.

ages. The court expressly declined to find that EMS had engaged in misconduct or copying. *Electro I*, slip op. at 72-73, 79-80 n. 24. See *Read*, 970 F.2d at 826-27, 23 USPQ2d at 1435-36 (listing factors to be considered in determining whether to award increased damages). These factors, in addition to those discussed above with respect to willfulness, compel the conclusion that the award of increased damages was an abuse of discretion. See *Kloster*, 793 F.2d at 1580, 230 USPQ at 91 ("[i]f infringement [is] ... innocent, increased damages are not awardable for infringement."). Likewise, the award of attorney fees, based on an erroneous finding of willfulness, cannot stand. See *Studiengesellschaft*, 862 F.2d at 1579, 9 USPQ2d at 1287 (where judge rejected master's willfulness finding, it was proper to reverse the award of increased damages and attorney fees).

#### CONCLUSION

That part of the judgment holding U.S. Patents 3,882,638, 3,972,123, and 4,412,402 infringed and not invalid is affirmed. That part of the judgment awarding increased damages and attorney fees is reversed because the court's finding of willful infringement was clearly erroneous.

#### COSTS

Each party shall bear its own costs.

**AFFIRMED-IN-PART and REVERSED-IN-PART.**



**F. Brantley SCOTT and John  
H. Burton, Appellants,**

**v.**

**Roy P. FINNEY, Appellee.**

**No. 94-1090.**

**United States Court of Appeals,  
Federal Circuit.**

**Sept. 14, 1994.**

In interference proceeding involving self-contained penile implant invention, the Board of Patent Appeals and Interferences, interference No. 102,429, awarded priority to senior party on grounds that junior party failed to show reduction to practice before senior party's date of invention. Junior party appealed. The Court of Appeals, Rader, Circuit Judge, held that junior party sufficiently demonstrated reduction to practice through videotape of insertion of prototype into penis of anesthetized patient, which showed surgeon manipulating implanted device several times to successfully simulate erection.

**Reversed and remanded.**

#### **1. Patents ☞314(5), 324.5**

Issue of reduction to practice of invention is question of law which Court of Appeals reviews de novo.

#### **2. Patents ☞113(1)**

Court of Appeals reviews Board of Patent Appeals and Interference's factual findings under clearly erroneous standard.

#### **3. Patents ☞90(5)**

To show prior invention, junior party must show reduction to practice of invention before senior party, or, if junior party reduced to practice later, conception before senior party followed by reasonable diligence in reducing it to practice; to show reduction to practice, junior party must demonstrate that invention is suitable for its intended purpose.

likely be the source of witnesses and documents, OKI America has an authorized distributor in California, and it has a California facility responsible for distribution of 30% of the supposedly infringing printers.

Finally, OKI America argues that the interests of justice would be served by transferring this case to California because then both cases would be tried in the same forum, which would ensure consistent judgments and would eliminate duplicate efforts by the parties and the two courts.

[2] This Court finds that this forum is more convenient than the Eastern District of California. The plaintiff is a resident of this forum; the defendants, located principally in New Jersey, can defend themselves as easily in Louisiana as in California.

Accordingly,

IT IS ORDERED that the motion of defendants, OKI America, Inc. and OKI-DATA, to dismiss plaintiff's complaint pursuant to Fed. R. Civ. P. 12(b)(2) and 12(b)(3) be and is hereby DENIED.

IT IS FURTHER ORDERED that the motion of OKI America, Inc. and OKI-DATA, to transfer this action to the Eastern District of California pursuant to 28 U.S.C. § 1404(a) be and is hereby DENIED.

IT IS FURTHER ORDERED that defendant Comp. USA's motion to stay the proceedings against it, in the event the case is severed and transferred, be and is hereby DENIED AS MOOT.

### Court of Appeals, Federal Circuit

In re Rijckaert

No. 93-1206

Decided November 23, 1993

### PATENTS

#### 1. Patentability/Validity — Obviousness — Relevant prior art — Particular inventions (§115.0903.03)

Board of Patent Appeals and Interferences erred by affirming rejection, on grounds of obviousness, of claims for apparatus to record and reproduce electric signal on magnetic record carrier, since references relied upon to reject claims do not provide basis for *prima facie* determination of obviousness, in that prior art relied upon, either individually or when combined, does not disclose, suggest, or render obvious claimed invention, and since applicant's burden to rebut rejection

of obviousness does not arise until *prima facie* case has been established.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Application for patent, serial no. 07/345,396, filed by Albert M.A. Rijckaert and Joannes A.E. Van Der Kop. From decision affirming final rejection of claims, applicants appeal. Reversed.

Edward W. Goodman (Algy Tamoshunas, with him on brief), Tarrytown, N.Y., for appellant.

Lee E. Barrett, associate solicitor, PTO (Fred E. McKelvey, solicitor, with him on brief), for appellee.

Before Lay, senior circuit judge (Eighth Circuit, sitting by designation), and Mayer and Lourie, circuit judges.

Lourie, J.

Albert Rijckaert and Joannes van der Kop ("Rijckaert") appeal from the decision of the United States Patent and Trademark Office (PTO) Board of Patent Appeals and Interferences affirming the final rejection of claims 5-12, all of the pending claims in patent application serial no. 07/345,396, as being unpatentable under 35 U.S.C. § 103 (1988). Because the references relied upon to reject the claims do not provide the basis for a *prima facie* determination that the claimed invention would have been obvious, we reverse.

### BACKGROUND

The patent application at issue relates to an apparatus for recording and reproducing an electric signal on a magnetic record carrier. Independent claim 11 is drawn to a recording apparatus and it specifies a relationship between time expansion or compression and three variables  $\alpha$ ,  $n$ , and  $M$ . Claim 11 reads, in pertinent part:

11. An apparatus for recording an electric signal on a magnetic record carrier in tracks which are inclined relative to the longitudinal direction of said record carrier, comprising:

[a] time-base correction circuit provid[ing] a time expansion or time compression of the signal blocks by a factor of  $\alpha * n / (180 * (M + 1))$ , where  $\alpha$  is the wrap

ping angle of the record carrier around the head drum and differs from  $180^\circ$ ,  $n$  is the number of head pairs, and  $M$  is the number of times within a specific time interval that a head pair which comes in contact with the record carrier during said time interval does not record a signal on the record carrier, said time interval being defined by those instants at which two consecutive track pairs are recorded by one or two head pairs.

Independent claim 12 is drawn to an apparatus for reproducing a recorded signal and it recites the reciprocal relationship between time compression or expansion and the three variables  $\alpha$ ,  $n$ , and  $M$ . Dependent claims 5-10 further limit claims 11 or 12.

The Board upheld the final rejection of claims 5 and 7-12 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent 4,757,392 to Awamoto in view of Driessen et al., *An Experimental Digital Video Recording System*, CE-32 I.E.E.E. Transactions on Consumer Electronics 3, Aug. 1986, at 362-70. The Board also upheld the final rejection of claim 6 as being unpatentable over Awamoto and Driessen in view of U.S. Patent 4,542,417 to Ohta.

### DISCUSSION

We review *de novo* the Board's ultimate determination of obviousness. *In re De Blauwe*, 736 F.2d 699, 703, 222 USPQ 191, 195 (Fed. Cir. 1984). Underlying factual inquiries, such as the scope and content of the prior art, differences between the prior art and the claimed invention, and level of ordinary skill in the art are reviewed for clear error. *See In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985).

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. *Id.* "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)). If the examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

All of the claims except claim 6 stand rejected under 35 U.S.C. § 103 as being obvious over Awamoto in view of Driessen.<sup>1</sup> Awamoto, the primary reference, discloses a signal processing circuit for a video recording and reproducing apparatus. Awamoto specifically discloses the time expansion of an input signal by a factor of two and the corresponding time compression of an output signal in a manner inverse to that of the time expansion. Further, Awamoto uses two video heads mounted on a rotary drum "of any of a well known video tape loading mechanism such that [the heads] follow parallel tracks skewed relative to the length of video tape." Driessen discloses a recording system using two pairs of heads mounted on piezo-ceramic actuators.

The Board concluded that the subject matter of the claims would have been obvious over Awamoto in view of Driessen, stating that "the time expansion or time compression relationship is satisfied for the expansion of two disclosed [in] Awamoto when a wrapping angle of  $360^\circ$ , one pair of heads and no non-recording intervals are assumed." The Board further asserted that the recognition of the claimed relationship between time expansion/compression and the three variables  $\alpha$ ,  $n$ , and  $M$  is "the mere discovery of a relationship that is applicable to [a] prior art apparatus[, and] does not [give] rise to a patentable invention." Thus, in affirming the rejection, the Board first assumed that the claim limitation at issue, the relationship between time expansion/compression and the three variables, was somehow "inherent" in the prior art as shown by Awamoto. The Board also assumed specific values for the claimed variables in order to assert that Awamoto's device satisfies the claimed relationship.

[1] Rijckaert argues that the examiner has not established a *prima facie* case of obviousness and that the examiner's assumptions do not constitute the disclosure of prior art. We agree. Awamoto does not disclose the wrapping angle of the record carrier around the head drum or the number of times that a head pair which comes in contact with the record carrier does not record a signal on the record carrier. Nor does Awamoto discuss the claimed relationship of the three varia-

<sup>1</sup> The claims stand or fall together since no separate argument for patentability has been made for each claim.

bles to time expansion/compression.<sup>2</sup> Driessen, the secondary reference, is relied upon only to teach the provision of a pair of write beads having a mechanically rigid coupling to each other and does not remedy the deficiencies of Awamoto. Thus, the prior art relied upon does not disclose, suggest, or render obvious the claimed invention, either individually or when combined.<sup>3</sup>

Awamoto does not describe the use of time expansion and compression as a means of optimally filling tracks, much less suggest that the three variables of the claims are even a factor in determining the amount of time expansion or time compression. Rather, Awamoto is concerned primarily with processing a high-quality broadcast television signal for use in conventional video machinery, and with compensating for errors introduced to such a signal by a transfer circuit. The Commissioner's assertion "that the [analysis discussed in his brief] and Awamoto demonstrate that the relationship was, in fact, well known in the art" is unavailing. While the court appreciates the Commissioner's thorough explanation of the claimed relationship in his brief, the Commissioner's brief is not prior art. The prior art is Awamoto, and it does not indicate that the relationship is well known in the art nor does it suggest the claimed relationship. See *In re Yates*, 663 F.2d 1054, 211 USPQ 1149, 1151 (CCPA 1981) (when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference).

To support the Board's affirmance of the rejection, the Commissioner points out that

<sup>2</sup> The Commissioner admits that other limitations recited in claims 11 and 12 are not found in Awamoto; however, those limitations were not argued before the Board or this court. Thus, we agree with the Commissioner that those limitations are not at issue here.

<sup>3</sup> The Board also noted that the claims are not "specific" in that they claim the three variables as a "factor" of the expansion or compression time. The Board stated, "claims 11 and 12 fail to say which of expansion time or compression time is factored by the variables, how or when one of the two times is selected based on the variables or how each of the two times is related to the variables." The Board further stated, "the relationship is probably satisfied by any prior art video tape recording and reproducing apparatus that otherwise satisfies the remaining requirements of the claims at bar." While the Board's position implies a possible rejection based upon 35 U.S.C. § 112, this issue is not before us. In any event, the statement that the relationship is "probably satisfied" by the prior art is speculative and therefore does not establish a *prima facie* case of unpatentability.

in the recording art, the exact matching of signal time to recording time is an optimal condition, and that this condition would be met by fulfilling the claimed relationship. While the condition described may be an optimal one, it is not "inherent" in Awamoto. Nor are the means to achieve this optimal condition disclosed by Awamoto, explicitly or implicitly. "The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient [to establish inherency.]" *In re Oelrich*, 666 F.2d 578# 581-82, 212 USPQ 323, 326 (CCPA 1981) (citations omitted) (emphasis added). "That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown." *In re Spormann*, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966). Such a retrospective view of inherency is not a substitute for some teaching or suggestion supporting an obviousness rejection. See *In re Newell*, 891 F.2d 899, 901, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989).

Rijckaert also argues that the rejection of dependent claim 6 as being obvious over Awamoto and Driessen in view of Ohta is improper. Ohta discloses an apparatus for compensating for signal loss in a single-head video recorder using a time compression factor of 3/5 (a signal of time period 5t/4 is compressed into a track of time period 3t/4) so that a signal is recorded completely during the time period that it takes the recording head to scan the magnetic tape. Regarding the Ohta patent, the examiner stated, "Ohta was only relied upon to support the idea that other compression factors are used in the prior art. . . ." The relationship between the time expansion/compression and the three variables recited in the claims from which claim 6 depends, which is absent in the combination of Awamoto and Driessen, is not supplied by Ohta. Thus, we agree that the rejection of claim 6 under § 103 is improper for the reasons set forth above with respect to the other claims.

While the Commissioner criticizes Rijckaert's arguments regarding the § 103 rejections, the burden to rebut a rejection of obviousness does not arise until a *prima facie* case has been established. In the case before us, it was not.

## CONCLUSION

The decision of the United States Patent and Trademark Office Board of Patent Ap-

<sup>4</sup> The Board did not specifically address the rejection of claim 6; therefore, claim 6 was considered to be affirmed for the reasons stated by the examiner. See 37 C.F.R. § 1.196(a) (1993).

peals and Interferences affirming the final rejection is reversed.

**REVERSED**

**District Court, N.D. Illinois**

Rasmussen v. The West Inc.

No. 92 C 8495

Decided June 29, 1993

**JUDICIAL PRACTICE AND  
PROCEDURE**

**1. Jurisdiction — Personal jurisdiction  
(\$405.11)**

Federal district court in Illinois has personal jurisdiction, in copyright infringement action, over Arizona corporation that does no business in Illinois, since defendant purposefully and knowingly initiated two purchases of allegedly infringed needlepoint design from Illinois resident, since design was created and copyrighted by that resident, sent from Illinois, and included copyright notice which warned defendant that infringement could subject it to suit in Illinois, since complaint stems directly from defendant's purchases, and since defendant therefore had minimum contacts with state sufficient to satisfy requirements for due process.

**2. Jurisdiction — Venue; transfer of action  
— In general (\$405.1901)**

Transfer of copyright infringement action from Illinois to Arizona is not warranted, since there is no evidence that defendant will incur greater hardship litigating in Illinois than plaintiff would suffer pursuing claim in Arizona, since Illinois is more convenient forum for two of three presently-known witnesses, and since interests of justice do not favor either forum, in that there is no related litigation pending in Arizona nor any complex state law issue to be decided.

Action by Susan Rae Rasmussen against The West Inc., for copyright infringement. On defendant's motions to dismiss for lack of personal jurisdiction, or to transfer action to Arizona. Both motions denied.

David C. Brezina and Dennis M. McWilliams, of Lee, Mann, Smith, McWilliams, Sweeney & Ohlson, Chicago, Ill., for plaintiff.

Eric L. Samore, of Querrey & Harrow, Chicago, for defendant.

Aspen, J.

Plaintiff Susan Rae Rasmussen ("Rasmussen") brings this copyright infringement action against defendant The West, Inc. ("West"). Presently before us is West's motion to dismiss this action for lack of personal jurisdiction and its motion, in the alternative, to transfer this action to Arizona. For the following reasons, we deny both of defendant's motions.

**I. Factual Background<sup>1</sup>**

Plaintiff Rasmussen, an Illinois resident, is the sole proprietor of Sular Designs, and earns her income, in part, by designing, publishing, and selling needlepoint patterns. In March, 1990, Rasmussen received a copyright for her "Fleur Du Quad" needlepoint design, chart, and instructions.

West is a non-profit Arizona corporation. With two paid employees and a group of volunteers, West runs a needlepoint and embroidery shop, selling supplies and giving lessons to its customers. All of West's profits are donated to needy women and children. The corporation does not maintain an office in Illinois, nor does it have any employees, officers, directors, or other representatives in Illinois. West does not advertise or solicit business in this state, does not own or rent any property here, or list a local phone number. In short, West conducts all of its business within Arizona.

In September, 1991, West mail-ordered, *inter alia*, several copies of the Fleur Du Quad pattern from Rasmussen. One year later in September, 1992, West again mail-ordered the copyrighted pattern from Rasmussen. Both times, Rasmussen received the orders and payment in Illinois and sent the patterns to West in Arizona. Both times, the patterns contained a Notice of Copyright.

Rasmussen alleges that one of West's agents photocopied the Fleur Du Quad design and instructions and sold at least two of the photocopies in violation of the copyright. Peggy Wolfe ("Wolfe"), a resident of Green Bay, Wisconsin, purportedly witnessed a West representative selling copies of the Fleur Du Quad design in a park in Tucson. At the time, Wolfe was with a group of five other needlepointers working together on patterns in the park.

**II. Discussion**

**A. Motion to Dismiss**

West seeks to dismiss this suit, arguing that its contacts with Illinois are too insub-

<sup>1</sup> For the purposes of this motion, we will take the complaint's well-pleaded allegations as true, as well as all reasonable inferences therefrom.

[10] As above indicated, Westphal does not contest the presence of § 112 support for the compound claims in Fawzi's parent application, but argues that the effective date to which the § 102(b) statutory bars are applicable is the date of presentation (November 26, 1969) of the compound claims. For the reasons discussed above, the pertinent statutory provisions do not permit Westphal's interpretation. Accordingly, "late claiming," as set forth by Westphal, is not a viable doctrine and cannot raise an issue ancillary to priority.

[11] Westphal further contends that there is no interference in fact because the branched alkyl compounds recited in his claims are patentably distinct from the generic alkyl compounds of the Fawzi claims. The board found the documentary evidence and expert testimony offered by Westphal in support of his claim of patentable distinctness to be entitled to little weight, citing inconsistencies and unsupported statements in the testimony and concluding that identification of the tested compounds was based on hearsay. However, even accepting Westphal's documentary evidence and expert testimony as probative and admissible under the business records exception to the hearsay rule,<sup>3</sup> we conclude that there was no error in the board's determination of no patentable distinctness.

**AFFIRMED.**



**In re John A. OELRICH et al.  
Appeal No. 81-564.**

**United States Court of Customs  
and Patent Appeals.**

**Dec. 10, 1981.**

Appeal was taken from decision of  
United States Patent and Trademark Office

3. Federal Rule of Evidence 803(6).

Board of Appeals, sustaining examiner's rejection of claim 1 in application serial No. 452,050, entitled "Sub-Critical Time Modulated Control Mechanism" as anticipated by applicant's prior patent. The Court of Customs and Patent Appeals, Rich, J., held that: (1) decision in prior appeal was not res judicata of instant rejection as issue in former case was obviousness, and (2) claim was not invalid as anticipated.

Reversed.

See also Cust. & Pat.App., 579 F.2d 86.

### 1. Patents ⇌ 112.3(4)

Doctrine of res judicata was not applicable to subsequent rejection of patent claim as anticipated by prior patent issued to applicant where issue in prior case involving the same application was obviousness. 35 U.S.C.A. §§ 102, 103.

### 2. Patents ⇌ 112.1

Res judicata does not have its usual impact when considering ex parte patent appeals as the public interest in granting valid patents outweighs the public interest underlying collateral estoppel and res judicata, particularly where the issue presented is not substantially identical to that previously decided.

### 3. Patents ⇌ 101(5)

Mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not distinguish a claim drawn to those things from the prior art. 35 U.S.C.A. §§ 102, 103.

### 4. Patents ⇌ 66(1.14)

Claim 1 of application for patent for "Sub-Critical Time Modulated Control Mechanism" was not anticipated by patent for "Time Modulated Pneumatically Actuated Control Mechanism" as patent instructed that the device was adapted to receive a carrier frequency substantially in excess of particular system critical or resonant frequency while application involved a

means for generating a carrier frequency less than the minimum system resonant frequency. 35 U.S.C.A. §§ 102, 103.

Roger A. VanKirk, East Hartford, Conn., for appellant.

Joseph F. Nakamura, Sol., and Thomas E. Lynch, Associate Sol., Washington, D. C., for the Patent and Trademark Office.

Before MARKEY, Chief Judge, and RICH, BALDWIN, MILLER and NIES, Judges.

RICH, Judge.

This appeal is from the decision of the United States Patent and Trademark Office (PTO) Board of Appeals (board) sustaining the examiner's rejection of claim 1 in application serial No. 452,050, filed March 18, 1974, entitled "Sub-Critical Time Modulated Control Mechanism," under 35 U.S.C. § 102 as anticipated by appellant Oelrich's U.S. patent No. 3,430,536 for "Time Modulated Pneumatically Actuated Control Mechanism," issued March 4, 1969. We reverse.

#### Background

This application was the subject of *In re Oelrich*, 579 F.2d 86, 198 USPQ 210 (CCPA 1978), in which a rejection of claims 1-5 under 35 U.S.C. § 103 was reversed. Appellant's method claims 2-5 now stand allowed.

The invention of claim 1 is directed to an apparatus specially adapted for moving *low inertia* steering fins on guided missiles. The prior art apparatus and the theory upon which it operates are fully discussed in our above prior opinion and will, therefore, not be repeated here. Generally, the claimed device responds to an electric signal from a missile guidance system, the magnitude of which is proportional to the desired

amount of course-correcting fin movement, and converts the signal into a pneumatic pressure of appropriate magnitude which acts on a piston to move the missile guiding fin. The device which is the subject of the Oelrich patent "was employed only with the then available steering fins which they characterize as 'high inertia' loads."<sup>1</sup> The frequency at which this "high inertia" load system is operated is stated to be *above* the critical (resonant) frequency of the system. 579 F.2d at 87-89, 198 USPQ at 212-13. The allowed method claims and apparatus claim 1 direct use of a carrier frequency *below* the critical frequency of the system.

Claim 1 reads (emphasis ours):

1. A time modulated fluid actuated control apparatus comprising:

housing means, said housing means defining a cylinder;

actuator piston means disposed in said housing means cylinder, said piston means including an output member adapted to be connected to a movable load, said load and control apparatus defining a *system having a range of resonant frequencies*;

solenoid operated valve means mounted on said housing means, said valve means being selectively operable to deliver pressurized fluid to and to vent fluid from said housing means cylinder at one side of said piston means;

means for generating variable input command signals commensurate with the desired position of the load, said command signals being characterized by a dynamic frequency range *below said range of said resonant frequencies*;

means for generating a signal at a *carrier frequency*, said carrier frequency being *greater than the maximum dynamic command signal frequency and less than the minimum system resonant frequency*;

only in referencing *moment of inertia*, not *inertia*. The difference is significant because *inertia*, measured in terms of *mass*, is closely related to *weight*, while *moment of inertia* is affected by the *distribution* of the mass. Because of this ambiguity, we cannot and do not use the terms "weight" and "inertia" interchangeably.

1. While the solicitor equates "low-inertia" with a "relatively light load" and "high-inertia" with a "relatively heavy load," appellants are not as unequivocal. They refer to "small inertia" and "low inertia" loads, but, for example, the Divigard affidavit refers to "Fin Inertia" in terms of "in-lb sec<sup>2</sup>/rad," a unit of measure applicable

means for modulating said carrier frequency signal by said command signals; and

means responsive to said modulated carrier frequency signal for controlling energization of said solenoid operated valve means.

In sustaining the examiner's rejection under § 102, the board expressed agreement with his reasoning, which is here summarized. Stating that "the issue is identical to that decided in *In re Ludtke*, 58 CCPA 1159, 441 F.2d 660, 169 USPQ 563 (1971)," the examiner noted that, for purposes of determining inherency, "the question is, does Oelrich [the reference patent] disclose a signal generator that necessarily must supply the carrier frequencies that appellants use?" The examiner turned to Exhibit A of coapplicant Divigard's affidavit, which states as an assumption in a "Linearized Simulation" of a "high inertia" load system that the critical resonance frequency must be kept below 80 Hz to avoid interaction with the carrier frequency which is between 100 and 150 Hz. Thus, the examiner concluded, "Exhibit A establishes Oelrich's carrier frequency range, which may now be compared with the carrier frequency range of applicants' low-inertia system." It was then asserted that the Oelrich and Kolk affidavits establish that good low inertia system design practice dictates a carrier frequency range of 95-190 Hz. Since the carrier frequency range for the high inertia system lies within the range for the low inertia system, and since the critical frequency of the low inertia system is near the solenoid limit of 175 Hz, the examiner posited that the Oelrich carrier frequencies would be sub-critical in the low inertia system, saying, "Thus Oelrich's signal genera-

tor does in fact inherently produce frequencies which would be sub-critical when used with a low-inertia system, and therefore, inherently supplies a carrier frequency range which is usable in applicants' system since this conclusion was deduced from specific data presented in the patent and in the affidavits supplied by appellants." The appellants also asserted our prior decision was *res judicata*.

### OPINION

[1, 2] Although appellants' arguments on appeal are directed primarily to a discussion of *res judicata*<sup>2</sup> and whether a "product which is unwittingly produced is anticipation," resolution of this case is properly had by comparison of the reference patent to the limitations of claim 1. As will appear, the determinative issue is a question of inherency.

The distinguishing feature of claim 1 is defined in the paragraph which states that the apparatus contains a

means for generating a \* \* \* carrier frequency \* \* \* greater than the maximum dynamic command signal frequency and less than the minimum system resonant frequency.<sup>[3]</sup>

Given that the carrier frequency which can be used in a low inertia system may fall within the range of carrier frequencies usable in a high inertia system (appellants admit as much), the PTO urges that the apparatus of the Oelrich patent inherently performs the function of the apparatus of claim 1, and that finding a new use for an old device does not entitle one to an apparatus claim for that device, citing *In re Wiseman*, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979). Appellants in that case argued, however, that a structure suggested

2. The doctrine of *res judicata*, argued in view of our decision in *In re Oelrich*, 579 F.2d 86, 198 USPQ 210 (CCPA 1978), is not applicable to the instant rejection. The issue in the former case was obviousness; here it is anticipation. A new rejection is before us. Furthermore, *res judicata* does not have its usual impact when considering *ex parte* patent appeals; the public interest in granting valid patents outweighs the public interest underlying collateral estoppel and *res judicata*, particularly

where the issue presented is not substantially identical to that previously decided. *In re Russell*, 58 CCPA 1081, 1083, 439 F.2d 1228, 1230, 169 USPQ 426, 428 (1971); *In re Craig*, 56 CCPA 1438, 1441-42, 411 F.2d 1333, 1335-36, 162 USPQ 157, 159 (1969).

3. Emphasis is ours. Portions of the claim unnecessary to this discussion have been omitted for clarity.

by the prior art was patentable to them because it also possessed an *inherent but unknown* function which they claimed to have discovered. This court stated that a "patent on such a structure would remove from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art." *Id.* at 1023, 201 USPQ at 661.

Appellants here countered the PTO inherency contention at oral argument (no reply brief was filed) by urging that there is no "inherency" because there is no "inevitability," that is, the previously quoted "means plus function" limitation of claim 1 is not inherently (always) present in the device of the Oelrich patent.

[3] It is true that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not distinguish a claim drawn to those things from the prior art. *In re Swinehart*, 58 CCPA 1027, 1031, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (1971). In this case, however, claim 1 does not merely recite a newly discovered function of an old device. *In re Chandler*, 45 CCPA 911, 254 F.2d 396, 117 USPQ 361 (1958), a case not cited by either party to this appeal, is most pertinent to the instant controversy.

The claim in *Chandler*, *id.* at 912-13, 254 F.2d at 397, 117 USPQ at 361-62, drawn to an automatic control for a jet engine, included a "means responsive to said movement for regulating the propulsive power of said engine, in accordance with said movement, so that said aircraft is propelled at a definite, selected speed, corresponding to the position of said engine relative to said aircraft, throughout the speed range of said aircraft." (Emphasis added.) In refuting the examiner's argument that the words beginning with "so that" were merely functional, and thus did not distinguish the device from that claimed in a patent to Goddard, this court stated:

4. For a similar case, see *In re Wilson*, 53 CCPA 1141, 1148-49, 359 F.2d 456, 461, 149 USPQ 523, 527 (1966). The provision of § 112 referred to is, of course, the sixth paragraph,

\* \* \* the expression beginning with "so that" is not merely functional, but constitutes a part of the definition of the "means responsive to said movement." Thus that means is defined as being responsive to the movement of the engine in such a way that the aircraft will be propelled at a definite speed in the manner specified. Such a definition conforms to the provision of 35 U.S.C. 112 that an element in a claim for a combination "may be expressed as a means or step for performing a specified function without the recital of structure, material or acts in support thereof." [4]

[4] Likewise, the words after "means for generating a \* \* \* carrier frequency" in the claim on appeal constitute a limiting definition of the means. The PTO does not contend that this limitation, a carrier frequency which is "less than the minimum system resonant frequency," is expressly disclosed in the Oelrich patent. Neither, however, is this limitation inherent therein. In *Hansgirk v. Kemmer*, 26 CCPA 937, 940, 102 F.2d 212, 214, 40 USPQ 665, 667 (1939), the court said:

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. [Citations omitted.] If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

The relationship between the carrier frequency and the system critical frequency—the former below the latter (and expressly made a claim limitation by use of "means plus function" language)—cannot be said to be "the natural result flowing from the operation as taught." The Oelrich patent instructs that the device is "adapted to receive a carrier frequency substantially in

formerly, at the times of *Chandler* and *Wilson*, the third paragraph. The change occurred January 24, 1978.

excess of the particular system critical or resonant frequency \* \* \*." Given this express teaching, a "means for generating a \* \* \* carrier frequency \* \* \* less than the minimum system resonant frequency" is not inevitably present.

The decision of the board is reversed.  
REVERSED



Leo WIESNER, Appellant,

v.

Hans WEIGERT, Appellee.

Appeal No. 81-571.

United States Court of Customs  
and Patent Appeals.

Dec. 10, 1981.

Junior party appealed from a determination of the Board of Patent Interference No. 99,532 awarding priority of an electronic time piece invention to senior party. The Court of Customs and Patent Appeals, Markey, Chief Judge, held that junior party failed to meet his burden of establishing, with corroboration, an actual reduction to practice before senior party's filing date and junior party did not make a sufficient showing of reasonable diligence during the nearly four years until filing date.

Affirmed.

#### 1. Patents §91(3)

The Board of Patent Interferences properly gave no consideration to junior party's preliminary statement and attached exhibits as part of his proof of priority. Patent and Trademark Office Practice Rules 204(c), 223(d), 228, 35 U.S.C.A.App.

#### 2. Patents §91(1)

Nonparticipation of the senior party does not relieve junior party of his customary burden to establish priority of invention by a preponderance of evidence under the established rules of practice.

#### 3. Patents §97

The Board of Patent Interference's interpretation of its own rules is entitled to great weight.

#### 4. Patents §91(2)

The Board of Patent Interferences erred in refusing to consider statements in the affidavits submitted by junior applicant were affirmed by the deponents on oral examination as part of their deposition testimony. Patent and Trademark Office Practice Rules 272(c), 285, 35 U.S.C.A.App.

#### 5. Patents §90(5)

An invention is not reduced to practice until its practicality or utility is demonstrated pursuant to its intended purpose, although reduction to practice of a commercially saleable product is not required.

#### 6. Patents §91(4)

Junior party failed to meet his burden of establishing, with corroboration, an actual reduction to practice before senior applicant's filing date and junior party did not make a sufficient showing of reasonable diligence during the nearly four years until filing date; thus, the Board of Patent Interferences properly awarded priority of electronic time piece invention to senior party.

Charles W. Helzer, Arlington, Va., for appellant; William C. Crutcher, Waterbury, Conn., of counsel.

Before MARKEY, Chief Judge, and RICH, BALDWIN, MILLER and NIES, Judges.

MARKEY, Chief Judge.

Junior party Wiesner appeals the determination of the Board of Patent Interferences (board) awarding priority to senior party Weigert. We affirm.

"has also appropriated enough of plaintiff's sequence of thoughts, choice of words, emphasis, and arrangement to satisfy the minimal threshold of required creativity." 970 F.2d at 1073 (internal quotation marks and citation omitted). The defendants' alleged use of the word "efinancia" simply does not reproduce any of the creativity that entitles Bird to a copyright in the computer program titled Financia.

Bird's contention that the word "financia" is not found in any dictionary, but instead "developed as a noun in Late Latin from a Middle-German root word" does not alter this conclusion. In fact, his claim that the word derives from another language suggests a lack of originality and creativity. *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 547 [225 USPQ 1073] (1985) ("The copyright is limited to those aspects of the work—termed 'expression'—that display the stamp of the author's originality.").

We therefore conclude that Bird has failed to state a claim of copyright infringement against either Afternic or the Dotster defendants. The district court thus did not err in dismissing Bird's copyright infringement claim.

### III. CONCLUSION

For all of the reasons set forth above, we **AFFIRM** the judgment of the district court.

## Crown Operations International Ltd. v. Solutia Inc.

U.S. Court of Appeals  
Federal Circuit

No. 01-1144

Decided May 13, 2002

### PATENTS

#### [1] Patentability/Validity — Anticipation — Prior art (§ 115.0703)

#### Patentability/Validity — Obviousness — Relevant prior art — In general (§ 115.0903.01)

Patent directed to solar and safety control glass with minimal visual distortion is not anticipated by prior art patent, since invention addresses visual distortion problem by limit-

ing visible reflectance contribution of solar control film layer to no more than about 2 percent, whereas prior patent does not discuss or disclose 2 percent limitation; since prior reference will not be assumed to inherently contain claimed property merely because it discloses same structure, and since declaratory plaintiff has not presented sufficient evidence to rebut presumption of validity and defendant's facial evidence that prior patent does not disclose 2 percent limitation; patent is not obvious in light of prior art, since plaintiff has not shown that prior art contains teaching, suggestion, or motivation to reduce reflectance contribution to about 2 percent.

#### [2] Patentability/Validity — Specification — Enablement (§ 115.1105)

Genuine issue of fact exists as to whether patent in suit, directed to elimination of optical distortion in solar and safety control glass, is invalid for lack of enablement, since patent teaches measurement of texture of solar film layer in glass by calculating "wave index" using average amplitude and average pitch, but amplitude is not defined in patent, since person of ordinary skill in art would recognize several ways to measure amplitude, since amplitude directly impacts wave index calculation, and varying amplitude measurements produces range of wave index results, since novel aspects of invention must not be left to inference, since patent does not specify boundaries for average pitch and amplitude used to calculate wave index, leaving open possibility of range of embodiments that meet limitation but are inoperative, and since patent's rules for determining which wave peaks and valleys are small enough to be eliminated from index calculation are ambiguous.

#### Particular patents — General and mechanical — Safety and solar film for glass

4,973,511, Farmer, Ho, Riek, and Woodard, composite solar/safety film and laminated window assembly made therefrom, summary judgment that patent is not invalid affirmed.

5,091,258, Moran, laminate for a safety glazing, summary judgment that patent is not invalid for lack of enablement reversed.

Appeal from the U.S. District Court for the Western District of Wisconsin, Shabaz, S.J.

Action by Crown Operations International Ltd. and Marshall H. Krone against Solutia Inc. for declaratory judgment that defendant's patents are invalid. Plaintiffs appeal from grant of summary judgment in favor of defendant. Affirmed as to patent no. 4,973,511; reversed and remanded as to patent no. 5,091,258.

Joseph T. Leone and Joseph A. Ranney, of DeWitt, Ross, and Stevens, Madison, Wis., for plaintiffs-appellants.

Gregory E. Upchurch, Kenneth R. Heine-man, and Dudley W. Von Holt, of Thompson Coburn, St. Louis, Mo., for defendant-appellee.

Before Lourie, Clevenger, and Gajarsa, circuit judges.

#### Gajarsa, J.

Crown Operations International, Ltd., and Mr. Marshall H. Krone (collectively "Crown"), appeal the decision of the United States District Court for the Western District of Wisconsin denying Crown declaratory relief that Solutia's U.S. Patent No. 4,973,511 ("the '511 patent") is invalid for lack of novelty and non-obviousness, and that Solutia's U.S. Patent No. 5,091,258 ("the '258 patent") is invalid for lack of enablement and written description. *Crown Operations Int'l, Ltd. v. Solutia, Inc.*, No. 99-C-802-S, slip op. at 8 (W.D. Wis. Aug. 30, 2000) (memorandum decision and order granting summary judgment) ("August 30 Order"); *Crown Operations Int'l, Ltd. v. Solutia, Inc.*, No. 99-C-802-S, slip op. at 24, 27 (W.D. Wis. Aug. 22, 2000) (same) ("August 22 Order"). Because we find no error in the district court's opinion with respect to the '511 patent, we affirm that portion of the district court's decision. However, because the district court erred in its analysis of enablement for the '258 patent, and did not address the written description issue for the '258 patent, we reverse the district court's grant of summary judgment on that issue and remand for additional proceedings consistent with this opinion.

#### I. BACKGROUND

The patents at issue in this appeal relate to layered films used to create safety and solar control glass. An example is an automobile windshield. Most windshields have two layers

of glass with a multi-layer film between the glass layers. The multi-layer film adds properties to the glass assembly, such as impact resistance or providing a conductive layer that facilitates defrosting the windshield. An inner layer of the film has solar control properties to selectively reflect, absorb (and thus convert to heat) or transmit defined percentages of certain wavelengths of light. This inner layer is called the solar control film. It is made of a substrate coated by one or more layers of metal or metallic substances. '511 patent, col. 3, l. 64 to col. 4, l. 2. Typically, manufacturers laminate the solar control film between layers of plasticized polyvinyl butyral ("PVB") (sometimes called the "safety film") in a process known as encapsulation. Then, the encapsulated solar control film is sandwiched between two pieces of glass for a final assembly of multi-layer glass with safety and solar control properties.

#### A. The '511 Patent

The '511 patent is directed to the problem that the metal-coated substrate, i.e., solar control film, tends to wrinkle during encapsulation causing visual distortions. The '511 patent claims to mask the wrinkles from detection by the human eye by limiting to two percent or less the visible light reflection contribution of the solar control film compared to reflection from a complete assembly of glass, PVB and solar control film. '511 patent, col. 4, ll. 46-49, col. 8, l. 66 to col. 9, l. 6, col. 14, l. 67 to col. 15, l. 2. Figure 1 from the '511 patent, set forth below, shows the layers in a complete assembly.

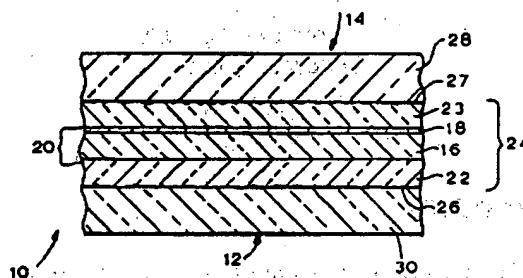


FIG. 1

The complete safety and solar control glass assembly 10 includes two outer glass layers 28 & 30, PVB layers 22 & 23, and the solar control film 20. The solar control film is comprised of a substrate layer 16 and solar control coating 18. '511 patent, col. 3, ll. 41-53, col. 7, ll. 2-4, col. 10, l. 15. Figure 3 from the '511

patent, set forth below, shows the sub-layers of the solar control coating 18.

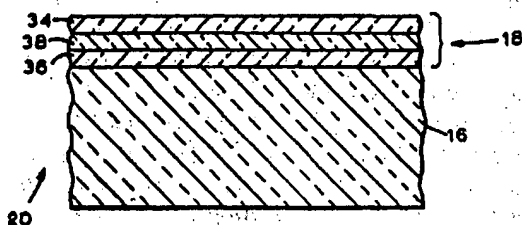


FIG. 3

Layer 18 is made of multiple sub-layers. Layers 34 and 36 are metal oxide, and layer 38 is metal. '511 patent, col. 5, ll. 12-14. In addition, the '511 patent notes that "[p]rior automotive windshields have visible light reflection contributions for their solar films of three percent or greater." Further, it relates that the primary method of achieving a low solar control film reflectance contribution is by providing a specially-designed solar coating. '511 patent, col. 4, ll. 56-65.

On December 16, 1999, Crown sued Solutia (the "Initial Complaint"), seeking, among various other relief, a declaration that the '511 patent was invalid for anticipation and obviousness. Upon the parties' cross-motions for summary judgment, the district court found the '511 patent not anticipated and not invalid for obviousness. *August 22 Order* at 24, 27. We discuss herein only those portions of the *August 22 Order* relevant to the issues on appeal, which relate solely to the summary judgment finding that the '511 patent was not invalid on the grounds of anticipation and obviousness.

Claim 1, the only independent claim of the '511 patent, is set forth below, with the element numbers from Figure 1 inserted into the claim.

1. A composite solar/safety film [24] for use in a laminated window assembly [10] comprising:

a flexible, transparent plastic substrate layer [16] having a carrier surface and an opposing back surface;

a multilayer solar control coating [18] on said carrier surface, said coated substrate defining a solar control film [20]; and

at least one flexible, transparent, energy absorbing plastic safety layer [23 and/or 22] bonded to a surface of said solar control film;

wherein said solar control film contributes no more than about 2% visible reflectance, based on total visible incident radiation, in a laminated window assembly containing said composite solar/safety film laminated to at least one rigid transparent member [30 and/or 28].

'511 patent, col. 14, l. 57 to col. 15, l. 4 (emphasis added and emphasized numbers added to identify elements shown in Figure 1 above).

Crown argued that U.S. Patent No. 4,017,661 to Gillery (the "Gillery patent") anticipates the '511 patent. The district court held otherwise, because, while the Gillery patent discloses the first three limitations of claim 1 of the '511 patent, it does not disclose the two percent visible reflectance limitation. The court found that neither the Gillery patent claims nor its description expressly disclose a two percent limit on reflectance contribution from the solar control film layer. Crown argued that the two percent limitation was inherently present in the Gillery patent's teachings because the Gillery patent disclosed an assembly with PVB layers, substrate layer, and substrate metal-coating—arguably of the same composition and thickness of the films disclosed by the '511 patent. Thus, Crown argued, because the structure, thickness and materials of the assembly were the same or within the same range(s), the Gillery patent must inherently disclose a two percent limitation. The district court rejected this argument because it found that none of the embodiments disclosed by the Gillery patent meet the two percent visible light reflectance limit.<sup>1</sup>

In its *August 22 Order*, the district court also held that the '511 patent was not rendered invalid for obviousness by Gillery or the other prior art cited by Crown because no prior art discloses: (i) that reflectance below two percent will mask wrinkles; (ii) a solar control film layer with reflectance below two percent; or (iii) any suggestion, motivation or teaching to reduce solar control film visible light reflectivity below two percent. Although the prior art generally sought to reduce visible light reflectivity, it also taught disadvantages of a very thin metal-coating on the substrate, including sacrificing infrared reflectivity. Thus, it taught that the proper compromise to

<sup>1</sup> The district court, applying a similar analysis, also found that UK Patent Application GB 2 057 355 (the "UK patent") did not anticipate the '511 patent because it did not have the two percent limitation.

achieve the conflicting goals of infrared (non-visible light) reflectance, visible light transmission and conductivity was a solar control film with a visible light reflectivity greater than two percent.

### B. The '258 Patent

The '258 patent is directed at eliminating optical distortion, called "applesauce," in safety and solar control glass assemblies of the type discussed above for the '511 patent. The '258 patent discloses a method to control distortion otherwise caused by the safety and solar film layer by measuring and controlling the texture of the surface of the PVB layers. The method expresses texture using a "wave index" and a "roughness value." The wave index calculation is at issue in this appeal. Wave index indicates the relative waviness of the surface of the PVB. Determining wave index involves measuring the surface of the PVB and then aggregating the measurements into a single number, the wave index, through a calculation purportedly described in the '258 patent.

The '258 patent directs one to use an instrument to physically measure the waviness of the surface of the PVB and capture the measurement into an electronic "trace line" representing the contours of the PVB surface. '258 patent, col. 7, ll. 54-65. Since the "trace line" is stored electronically, a computer program is used to calculate wave index from the trace. Three figures from the '258 patent, given below, provide examples of PVB surface trace lines.

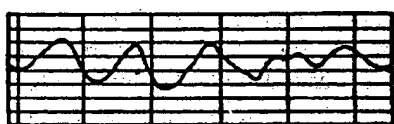


FIG. 7



FIG. 8



FIG. 9

The rules for calculating the wave index implement a "smoothing" function. The smoothing process seeks to eliminate minor inflection points (peaks or valleys) to simplify the calculation of wave index. '258 patent, col. 7, l. 66 to col. 8, l. 2.

In the Initial Complaint, Crown sought a declaration that the '258 patent was invalid for anticipation and obviousness. Then, on May 26, 2000, Crown amended the complaint (the "Amended Complaint") to additionally claim in Count VI that the '258 patent is invalid under 35 U.S.C. § 112, first paragraph, because it lacked enablement and written description due to ambiguities in the disclosed wave index calculation. In its *August 22 Order*, the district court found the '258 patent not anticipated and not invalid for obviousness. *August 22 Order* at 28-29.

With respect to Count VI of Crown's amended complaint, Solutia moved for summary judgment on Crown's enablement and written description claim. Crown opposed Solutia's summary judgment motion, arguing that the '258 patent did not meet the enablement and written description requirements. The district court found the '258 patent not invalid for lack of enablement, but did not discuss in its opinion the written description requirement. *August 30 Order* at 8-13. We discuss herein only those portions of the *August 30 Order* relevant to the issues on appeal, which relate to summary judgment finding the '258 patent not invalid on the grounds of enablement and the procedural disposition of the written description issue.

Claim 1 of the '258 patent is set forth below. In the language of this claim, "laminate" refers to the complete glass, PVB and solar control film assembly, and "functional performance layer" refers to the solar control coating. '258 patent, col. 3, ll. 45-65.

1. A laminate which is substantially free of reflected distortion when used in a safety glazing comprising:

a transparent, thermoplastic substrate layer, optionally surface treated or coated, bearing one or more functional performance layers; and

at least one layer of plasticized polyvinyl butyral bonded on one side to a functional performance layer or the substrate layer and having a roughened deairing surface on its other side characterized by a roughness value,  $R_z$ , of at least 10 micrometers;

said at least one plasticized polyvinyl butyral [PVB] layer, before bonding to the substrate layer or functional performance layer, possessing low surface waviness on each side characterized by a wave index

value, WI, of less than 15,000 square micrometers.

'258 patent, col. 12, ll. 2-16 (emphasis added).

Crown argued that the rules disclosed by the '258 patent for calculating wave index are not sufficiently precise to enable a person of ordinary skill in the art to practice the '258 patent without undue experimentation. The wave index calculation as described by the '258 patent is set forth below.

In this regard, considering the waviness profile as a series of peaks and valleys, the smoothing rules of the program consider an inflection point to be a true peak or valley if it is: i) at least 100 micrometers away from the immediately preceding prior peak or valley and ii) at least 0.5 micrometer above or below the immediately preceding prior peak or valley, a valley being at least 0.5 micrometer below the immediately preceding prior peak. Pitch (P) is the distance between one valley and the next valley or in other words across the base of a peak. Average amplitude (H avg) and average pitch (P avg) are determined by the program for the smoothed trace of ten 12.5 mm tracing lengths (the second five lengths being 90° to the first five lengths). From the average of the averaged H's and P's, a WI value is computed from the equation: Wave Index (WI) = (H avg) x (P avg) where H avg and P avg are in microns.

'258 patent, col. 8, ll. 3-19.

Crown asserted that according to the disclosed wave index "calculation," one of ordinary skill in the pertinent art would not know whether to instruct the smoothing program to disregard a peak by comparing it to an immediately preceding peak, or to a valley. The district court held that common sense and the clarifying clause "a valley being at least 0.5 micrometer below the immediately preceding prior peak" defeated Crown's argument. Thus, the district court held that the alleged grammatical ambiguities in the rules disclosed for calculating wave index did not invalidate the patent for lack of enablement.

Crown timely appealed the district court's two orders, raising the issues of anticipation and obviousness of the '511 patent, and lack of enablement and written description of the '258 patent. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## II. STANDARD OF REVIEW

We review a district court's grant of summary judgment without deference. *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1378, 53 USPQ2d 1225, 1227 (Fed. Cir. 1999). Summary judgment is appropriate when the moving party demonstrates that "there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986). On summary judgment, the evidence must be viewed in the light most favorable to the party opposing the motion, *Poller v. Columbia Broad. Sys., Inc.*, 368 U.S. 464, 473 (1962), with doubts resolved in favor of the nonmovant, *Cantor v. Detroit Edison Co.*, 428 U.S. 579, 582 (1976); *Transmatic, Inc. v. Gulton Indus., Inc.*, 53 F.3d 1270, 1274, 35 USPQ2d 1035, 1038 (Fed. Cir. 1995). Once the moving party has satisfied its initial burden, the opposing party must establish a genuine issue of material fact and cannot rest on mere allegations, but must present actual evidence. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). Issues of fact are genuine only "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Id.* A disputed fact is material if it might affect the outcome of the suit such that a finding of that fact is necessary and relevant to the proceeding. *Id.*; *General Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 980, 41 USPQ2d 1440, 1442 (Fed. Cir. 1997).

A patent is invalid for anticipation when the same device or method, having all of the elements contained in the claim limitations, is described in a single prior art reference. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894, 221 USPQ 669, 673 (Fed. Cir. 1984). An anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed in the prior art and that such existence would be recognized by persons of ordinary skill in the field of the invention. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ 1655, 1657 (Fed. Cir. 1990); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988).

Obviousness is a legal conclusion based on underlying facts of four general types, all of

which must be considered by the trier of fact: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) any objective indicia of nonobviousness. See *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 [148 USPQ 459] (1966); *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1270, 20 USPQ2d 1746, 1750-51 (Fed. Cir. 1991); *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1594 (Fed. Cir. 1987).

"Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention." *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546, 48 USPQ2d 1321, 1329 (Fed. Cir. 1998). There must be a teaching or suggestion within the prior art, within the nature of the problem to be solved, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources, to select particular elements, and to combine them as combined by the inventor. See *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665, 57 USPQ2d 1161, 1167 (Fed. Cir. 2000); *ATD Corp.*, 159 F.3d at 546, 48 USPQ2d at 1329; *Heidelberg Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 1072, 30 USPQ2d 1377, 1379 (Fed. Cir. 1994) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination.").

The written description inquiry is a factual one and must be assessed on a case-by-case basis. See *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991) (quoting *In re Smith*, 458 F.2d 1389, 1395, 173 USPQ 679, 683 (CCPA 1972) ("Precisely how close the original description must come to comply with the description requirement of § 112 must be determined on a case-by-case basis.")). In order to satisfy the written description requirement, the disclosure as originally filed does not have to provide in haec verba support for the claimed subject matter at issue. See *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570, 39 USPQ2d 1895, 1904 (Fed. Cir. 1996). Nonetheless, the disclosure must convey with reasonable clarity to those skilled in the art that the inventor was in possession of the invention, *Vas-Cath Inc.*, 935 F.2d at 1563-64, 19 USPQ2d at 1116-17,

although we have also clarified that the possession test alone is not always sufficient to meet the written description requirement, *Enzo Biochem, Inc. v. Gen-Probe Inc.*, No. 01-1230, 2002 WL 487156, at \*7 (Fed. Cir. Apr. 2, 2002). As such, "the written description requirement is satisfied by the patentee's disclosure of 'such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention.'" *Enzo Biochem*, 2002 WL at \*7 (quoting *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997)). Put another way, one skilled in the art, reading the original disclosure, must reasonably discern the limitation at issue in the claims. *Waldemar Link GmbH & Co. v. Osteonics Corp.*, 32 F.3d 556, 558, 31 USPQ2d 1855, 1857 (Fed. Cir. 1994).

Whether a claim is enabled under 35 U.S.C. § 112, first paragraph is a question of law, although based upon underlying factual findings. See *PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1564, 37 USPQ2d 1618, 1623 (Fed. Cir. 1996); *In re Goodman*, 11 F.3d 1046, 1049-50, 29 USPQ2d 2010, 2013 (Fed. Cir. 1993).

### III. DISCUSSION

#### A. The '511 Patent

On appeal, Crown describes various purported errors in the district court's analysis of the validity of the '511 patent. Despite Crown's contentions, we ascertain no error requiring reversal of the district court's determination of validity over Crown's claims of anticipation and obviousness.

[1] Regarding alleged anticipation by the Gillery patent, on its face the Gillery patent does not disclose or discuss a two percent limitation for the reflectance contribution of the solar control film. Crown maintains that the '511 patent merely claims a preexisting property inherent in the structure disclosed in the prior art. Crown urges us to accept the proposition that if a prior art reference discloses the same structure as claimed by a patent, the resulting property, in this case, two percent solar control film reflectance, should be assumed. We decline to adopt this approach because this proposition is not in accordance with our cases on inherency. If the two percent reflectance limitation is inherently

disclosed by the Gillery patent,<sup>2</sup> it must be necessarily present and a person of ordinary skill in the art would recognize its presence. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999); *Continental Can*, 948 F.2d at 1268, 20 USPQ2d at 1749. Inherency "may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id.* at 1269, 20 USPQ2d at 1749 (quoting *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)).

In arguing inherent disclosure of the two percent limitation in the Gillery patent, Crown bears an evidentiary burden to establish that the limitation was necessarily present.<sup>3</sup> The moving party in a summary judgment motion has the burden to show "that there is an absence of evidence to support the non-moving party's case;" the non-moving party must affirmatively demonstrate by specific factual allegations that a genuine issue of material fact exists for trial. *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986). A patent enjoys a presumption of validity, see 35 U.S.C. § 282, which can be overcome only through clear and convincing evidence, see *United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1563, 41 USPQ2d 1225, 1232 (Fed. Cir. 1997). Given the presumption of validity afforded the '511 patent, Crown has failed to meet its burden because it has not presented sufficient evidence to rebut the facial evidence offered by Solutia that the Gillery patent does

<sup>2</sup> In order to claim "equivalent structure" between the Gillery patent and the '511 patent, Crown's inherency argument rests on a precondition of its own making - that the Gillery patent discloses use of  $\text{TiO}_2$ , even though it specifies  $\text{TiO}_x$ , where  $x$  is greater than 1.0 but less than 2.0. Although Crown vigorously argues this point, we do not reach this issue because even if Crown is correct that the structures are equivalent, Crown's inherency argument fails for the reasons set forth herein.

<sup>3</sup> Crown's reliance on *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 36 USPQ2d 1225 (Fed. Cir. 1995), and *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 42 USPQ2d 1777 (Fed. Cir. 1997), to characterize the two percent limitation as a "performance limitation" similar to the claim terms at issue in those cases is unpersuasive and overbroad. Respectively, *Pall* and *Tekmar* dealt with the claim terms "skinless" and "passage." Beyond the readily apparent difference between these potentially broad terms and the precise specification of a two percent limit in the '511 patent, characterizing a claim limitation as a "performance characteristic" is not helpful as to whether the "necessarily present" requirement of inherency is met.

not disclose the two percent limitation. See *Eli Lilly & Co. v. Barr Lab. Inc.*, 251 F.3d 955, 962, 58 USPQ2d 1869, 1874 (Fed. Cir. 2001) ("[A] moving party seeking to have a patent held not invalid at summary judgment must show that the nonmoving party, who bears the burden of proof at trial, failed to produce clear and convincing evidence on an essential element of a defense upon which a reasonable jury could invalidate the patent."); *In re Robertson*, 169 F.3d at 745 (recognizing that extrinsic evidence may be required to establish inherency). Instead, Crown offers only an assumption and its own contentions.<sup>4</sup>

Crown also argues that the district court erred by comparing reflectance values in the Gillery patent to non-corresponding values in the '511 patent. *August 22 Order* at 23-24. While perhaps the district court could have been more careful to explain the basis of its comparison, on a close reading of the district court's analysis we find that the alleged improper comparison only supported the district court's primary point - that no embodiment of the Gillery patent disclosed the two percent limitation, a conclusion that Crown has not shown to be in error.

Finally, Crown argues that various prior art references invalidate the '511 patent as obvious in view of such prior art. Crown's arguments lack merit because it has not shown that the prior art contains a teaching, suggestion or motivation to reduce the reflectance contribution of the solar control film to "no more than about two percent," and the district court properly concluded that there was no such teaching, suggestion or motivation in the prior art cited by Crown. See *Ruiz*, 234 F.3d at 665, 57 USPQ2d at 1167; *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

## B. The '258 Patent

On appeal, Crown argues that the district court erred in analyzing the impact of the ambiguities in the wave index calculation on the enablement requirement for the '258 patent. In

<sup>4</sup> As indicated by this Court's questions at oral argument concerning the seemingly direct route to prove that the Gillery patent contains the two percent limitation—implementing an embodiment of the Gillery patent and testing it—this Court finds puzzling Crown's reluctance regarding this approach to generate extrinsic proof that the Gillery patent inherently meets the two percent limitation.

addition to its enablement attack, Crown also argues that the '258 patent does not meet the written description requirement of § 112, first paragraph.

The two requirements, while related and springing from the same factual predicates,<sup>5</sup> each carry a separate purpose. The purpose of the enablement requirement is to "ensure[] that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims." *Nat'l Recovery Techs., Inc. v. Magnetic Separation Sys.*, 166 F.3d 1190, 1196, 49 USPQ2d 1671, 1675 (Fed. Cir. 1999). One of our predecessor courts has held the enablement and written description requirements to be separate and distinct, and has held that a "specification may contain a disclosure that is sufficient to enable one skilled in the art to make and use the invention and yet fail to comply with the description of the invention requirement." *In re Barker and Pehl*, 559 F.2d 588, 591, 194 USPQ 470, 472 (CCPA 1977). Subsequently, this court has held that the purpose of the written description is distinct from merely explaining how to make and use the invention. See *Enzo Biochem*, 2002 WL at \*7-8; *Vas-Cath*, 935 F.2d at 1563-64, 19 USPQ2d at 1117. In light of the odd procedural setting of the written description issue in this appeal, our disposition of this appeal based on enablement, and given that the two requirements are distinct and each are necessary, we do not reach the written description issue except to

<sup>5</sup> Also springing from these same underlying factual predicates is the § 112, second paragraph, definiteness requirement. This requirement is distinct from the enablement and description requirements, which arise from § 112, first paragraph.

[D]efiniteness and enablement are analytically distinct requirements, even though both concepts are contained in 35 U.S.C. § 112. The definiteness requirement of 35 U.S.C. § 112, ¶ 2 is a legal requirement, based on the court's role as construer of patent claims. . . . Definiteness requires the language of the claim to set forth clearly the domain over which the applicant seeks exclusive rights. . . . The test for whether a claim meets the definiteness requirement is "whether one skilled in the art would understand the bounds of the claim when read in light of the specification."

*Process Control Corp.*, 190 F.3d at 1358 n.2, 52 USPQ2d at 1034 n.2 (internal citations omitted). See also 3 Donald S. Chisum, *Chisum on Patents*, § 8.03 at 8-14 (2001) (noting the difference between the requirements of "definiteness, which claims must meet, from the requirements of enablement, which the disclosures of the specification must meet").

note that it appears to remain available for adjudication or disposition by the district court on remand.<sup>6</sup>

Turning to the enablement issue, we agree with Crown that the ambiguities and lack of specified boundary conditions, and Crown's proffered evidence concerning the same, raise a genuine issue of material fact as to whether a person of ordinary skill in the pertinent art could make or use the invention of the '258 patent<sup>7</sup> without undue experimentation. *White Consol. Indus. v. Vega Servo-Control*, 713 F.2d 788, 791, 218 USPQ 961, 963-64 (Fed. Cir. 1983). The district court found otherwise. However, it appears not to have considered the statements of Crown's expert concerning the effect of unspecified boundary conditions on the calculation of wave index.

[2] Following the reasoning of the district court, Solutia argues that a person of ordinary skill in the pertinent art could overcome any ambiguities in the wave index calculation without undue experimentation by testing a limited number of possibilities for computing the wave index. In response, Crown offers statements of its expert that the '258 patent does not define amplitude and that a person of ordinary skill in the art would not know whether to measure amplitude: (i) from a centerline running horizontally through the "middle" of the trace; (ii) from "peak-to-peak," i.e., from the bottom of a valley to the top of a peak; or (iii) from some other baseline or reference running horizontally somewhere through the trace. On its face, the '258 patent does not define amplitude. However, average amplitude directly impacts the wave index calculation because wave index is the result of multiplying average amplitude by average pitch. Simply put, the wave index calculation would produce two separate numbers

<sup>6</sup> Based on the record before us, the written description issue has the following procedural posture: (i) Crown's Count VI of its amended complaint raised the written description issue; (ii) Solutia's summary judgment motion argued that the '258 patent met the written description requirement; (iii) in opposition Crown argued that the written description requirement was not met; (iv) the district court did not dispose of the written description issue or discuss the issue in its opinion in a way that enables our review; and (v) Crown preserved the written description issue in its appeal to this court and thus has not waived its further adjudication on remand.

<sup>7</sup> All seventeen claims of the '258 patent refer to wave index, thus they all stand or fall together.

if calculated with a centerline versus a "peak-to-peak" amplitude. Worse yet, a range of various wave index values are possible for amplitude baselines running horizontally somewhere through the trace at various locations. To show that the wave index calculation is enabled, Solutia cites various details from the '258 patent concerning how to perform the test to generate a trace of the PVB surface to calculate wave index. However, Solutia does not present sufficient evidence to rebut Crown's demonstration of the amplitude ambiguity in the wave index calculation. This is so because: (i) the amplitude is a direct input to the critical claim limitation, a wave index of less than 15,000 square micrometers; and (ii) the novel aspects of the invention must be disclosed and not left to inference, that is, a patentee may not rely on the inference of a person of ordinary skill in the pertinent art to supply such novel aspects. See *Genentech Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366, 42 USPQ2d 1001, 1005 (Fed. Cir. 1997) (stating that the knowledge of a hypothetical person of ordinary skill in the art cannot be used to supply the patentable aspects of the invention).

Compounding the amplitude ambiguity, Crown also notes that the wave index is the result of two independently varying, unbounded terms: average pitch and average amplitude. On its face, this does not seem to be a problem. However, Crown's expert noted that because boundary conditions are not specified, the claim covers inoperative embodiments. For example, a wave index of 15,000 square micrometers results from an average height of 1000 micrometers multiplied by an average pitch of 15 micrometers. Yet, according to Crown's expert, an average height of 1000 micrometers would not be acceptable for the PVB. As with the amplitude ambiguity, the problem goes well beyond this single example because a full range of resulting inoperative embodiments are possible for values of average height and average pitch that, when multiplied, produce a wave index value that meets the limitation of the claim. Such inoperative embodiments do not necessarily invalidate the claim. See *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1576-77, 224 USPQ 409, 414 (Fed. Cir. 1984); *In re Cook*, 439 F.2d 730, 735, 169 USPQ 298, 302 (CCPA 1971) (noting that, although claims may read on some inoperative embodiments, this does not neces-

sarily invalidate the claim if the necessary information to limit the claims to operative embodiments is known to a person of ordinary skill in the art).<sup>8</sup> However, the inoperative embodiments support Crown's assertion that there is a genuine issue of material fact with respect to enablement. See *Atlas Powder*, 750 F.2d at 1576-77; see also *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1358-59, 52 USPQ2d 1029, 1034-35 (Fed. Cir. 1999) (holding that the district court failed in its claim construction to consider the effect of inoperative embodiments on invalidity due to lack of enablement).<sup>9</sup>

Further compounding the ambiguities with the wave index rules, the '258 patent's rules for determining which inflection points are "true" inflection points additionally support Crown's argument that it has raised a genuine issue of material fact. Crown demonstrated in various ways through its experts and arguments the potential indeterminacy in the rules. Solutia's expert admitted that there was some ambiguity in the rules with respect to whether a preceding peak or valley was the reference point in selecting a "true" peak or valley.

Solutia argues that even if the disclosed wave index calculation has ambiguities and is indeterminate, a person of ordinary skill in the pertinent art would be able to make and use the invention with some experimentation, but less than "undue" experimentation. Solutia argues that such a skilled person would only have to try two possibilities for amplitude, centerline and "peak-to-peak," and that experimenting to discover which of two possibilities to use is well within the boundary of undue experimentation. Crown counters that the amplitude ambiguity and potential inoperative embodiments, combined with the ambiguities in the smoothing rules, seems to sug-

<sup>8</sup> The court in *In re Cook* further notes that a claim may be invalid if it reads on significant numbers of inoperative embodiments. *In re Cook*, 439 F.2d at 734, 169 USPQ at 301-02 (citing *Grayer Tank & Mfg. Co. v. Linde Air Products Co.*, 336 U.S. 271, 276-77, 80 USPQ 451, 453 (1949)). See also *In re Moore*, 439 F.2d 1232, 1236 169 USPQ 236, 239 (CCPA 1971) (noting that the question is whether the scope of protection conveyed by the disclosure to a person of ordinary skill in the art is commensurate with the scope of protection taught by the claims); Chisum, § 7.03[7][a] at 7-108 & n.6.

<sup>9</sup> The inoperative embodiment inquiry informs the enablement inquiry; they are not the same inquiry. *Natl Recovery Techs.*, 166 F.3d at 1196, 49 USPQ2d at 1676.

gest a wide range of possibilities which one must try.<sup>10</sup> With this wide range of possibilities, we agree that Crown has raised a genuine issue of material fact as to the amount and type of experimentation required, facts that will determine whether such experimentation is undue. See *Enzo Biochem Inc., v. Calgene Inc.*, 188 F.3d 1362, 1371, 52 USPQ2d 1129, 1135-36 (Fed. Cir. 1999) (holding that a reasonable amount of experimentation does not invalidate a patent, but undue experimentation does invalidate, and holding that the *Wands* factors, which determine whether a patent's disclosure is insufficient such that the experimentation required would be undue, apply to inter partes litigation).<sup>11</sup> While ultimately a trier of fact may reach the conclusion that any required experimentation is not undue, Crown has shown that sufficient potential for undue experimentation exists such that disposal on summary judgment is improper.

### CONCLUSION

Because we hold that the '511 patent has not been shown to be invalid due to anticipation or obviousness and that a genuine issue of material fact exists with respect to facts underlying the determination of enablement for the '258 patent, we affirm-in-part and reverse-in-part the district court's decision and remand

<sup>10</sup> We note that the specification for the '258 patent states that in the disclosed embodiment the wave index is calculated using a software program running on a personal computer being fed the trace line. '258 patent, col. 7, ll. 64-68. Undoubtedly, Solutia took care to ensure that the program contained the necessary boundary conditions and other information to calculate wave index to practice the invention. It appears, however, that Solutia took substantially less care in transcribing the information from the program into the specification's rules for calculating wave index. This incongruity will be relevant to the question of enablement upon remand. See Chisum, § 7.03[4][e] at 7-86 & n.77 ("A specification that claims an invention requiring implementation through computer software but fails to set forth the details of computer programming may present issues of whether the experimentation required to write the programming is reasonable or unreasonable.") (summarizing the teachings of various cases).

<sup>11</sup> The *Wands* factors are:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

In re *Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

for additional proceedings consistent with this opinion.

### AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED.

### COSTS

Each party bears its own costs.

### J.K. Harris & Co. v. Kassel

U.S. District Court  
Northern District of California

No. 02-0400-CW

Decided March 22, 2002

### TRADEMARKS AND UNFAIR TRADE PRACTICES

#### [1] Infringement; conflicts between marks — Defenses — Fair use (§ 335.1003)

Infringement defendants' use of plaintiff's "J.K. Harris" trade name on their World Wide Web site in links to other Web pages, and when disseminating truthful factual information, constitutes nominative fair use; however, some computer programming techniques defendants are alleged to be using do not satisfy requirements for nominative fair use, since, in order to identify plaintiff's product, defendants need not use "header tags" or "underline tags" around sentences containing plaintiff's trade name, use plaintiff's trade name or permutations thereof as keywords 75 separate times, or increase font size and underline sentences containing plaintiff's trade name at top of defendants' Web pages.

#### [2] Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion likely (§ 335.0304.03)

#### Infringement; conflicts between marks — Defenses — Fair use (§ 335.1003)

### REMEDIES

#### Non-monetary and injunctive — Equitable relief — Preliminary injunctions — Trademarks and unfair trade practices (§ 505.0707.09)

Infringement plaintiff is entitled to preliminary injunction prohibiting defendants from

enjoys exclusive jurisdiction to review the decisions of the ITA, its decisions on the occasions of such review are of significant import. Given the exclusive authority of the Court of International Trade, the expertise it develops and maintains from its exclusivity is worthy of respect. In the instances when the decisions of the Court of International Trade are either not appealed to this court or are left wholly undisturbed following appeal, those decisions are likely to "serve as valuable guides to the rights and obligations of the international trade community." *National Corn Growers Ass'n v. Baker*, 10 C.I.T. 517, 643 F.Supp. 626, 631 (1986).

[3] The express terms of 28 U.S.C. § 2645(a) (1988) provide that "[a] final decision of the Court of International Trade in a contested civil action . . . shall be supported by (1) a statement of findings of fact and conclusions of law; or (2) an opinion stating the reasons and facts upon which the decision is based." The judgment of the Court of International Trade alone does not satisfy the mandatory requirements of section 2645(a). Our holding is not exceptional. The United States Court of Customs and Patent Appeals, one of our predecessor courts, required the United States Customs Court, a predecessor court of the Court of International Trade, to comply with section 501 of the Tariff Act of 1930, the predecessor statute to 28 U.S.C. § 2645(a). *Florea & Co. v. United States*, 35 CCPA 153, 155, 1948 WL 5018 (1948). Nor is it exceptional for this court to consider *sua sponte* the issue raised by section 2645(a). See, e.g., *Cablestrand Corp. v. Wallshein*, 989 F.2d 472, 473 (Fed. Cir.1993) (vacating and remanding a district court judgment for findings of fact and conclusions of law when issue was not raised by parties on appeal).

This court cannot provide effective and meaningful appellate review of the ITA's actions in this case until we are supplied with the fruits of satisfaction of section 2645(a). Accordingly, the judgment of the Court of International Trade is vacated and the case is remanded to afford the court the opportunity to comply with the relevant statute.

\* Clevenger, Circuit Judge, did not participate in

No costs.

**VACATED AND REMANDED.**



**GLAXO INC. and Glaxo Group Limited,  
Plaintiffs-Appellees,**

**v.**

**NOVOPHARM LTD., Defendant-  
Appellant.**

**No. 94-1026.**

**United States Court of Appeals,  
Federal Circuit.**

**April 21, 1995.**

**Rehearing Denied; Suggestion for  
Rehearing In Banc Declined  
June 21, 1995.\***

Holder of patent for crystalline form of ranitidine hydrochloride marketed as antiulcer medication sought injunction against infringer, who admitted infringement, but claimed patent was invalid. The United States District Court for the Eastern District of North Carolina, 830 F.Supp. 871, Terrence William Boyle, J., upheld validity of patent and enjoined infringer from commercial manufacture or sale of patented drug. Infringer appealed. The Court of Appeals, Rich, Circuit Judge, held that: (1) crystalline form of drug was not anticipated by prior art; (2) patentee did not engage in inequitable conduct before Patent and Trademark Office; (3) patentee did not violate best mode requirement, as corporate officials' knowledge of best mode could not be imputed to inventor; and (4) principles of agency were inapplicable to best mode analysis.

**Affirmed.**

Mayer, Circuit Judge, filed dissenting opinion.

#### **1. Patents ⇐324.55(2)**

Anticipation of subject of patent is factual matter which Court of Appeals reviews

the vote.

under clearly erroneous standard. 35 U.S.C.A. § 102(a).

#### 2. Patents ⇐66(1.2)

Patent claim is "anticipated" and therefore invalid when single prior art reference discloses each and every limitation of claim; disclosure need not be express, but may anticipate by inherency where it would be appreciated by one of ordinary skill in the art. 35 U.S.C.A. § 102(a).

See publication Words and Phrases for other judicial constructions and definitions.

#### 3. Patents ⇐66(1.12)

Patent for second form of ranitidine hydrochloride drug was not "anticipated" by prior art, though form could be produced by practicing example in prior patent application for first form of drug, where practice of example sometimes resulted in production of first patented form of drug and sometimes resulted in production of second form of drug. 35 U.S.C.A. § 102(a).

#### 4. Patents ⇐97

To prevail on defense of inequitable conduct as to claim of patent infringement, alleged infringer had to show by clear and convincing evidence that patentee misrepresented facts to Patent and Trademark Office (PTO) during prosecution of patent, that misrepresentation was material, and that patentee acted with intent to deceive PTO.

#### 5. Patents ⇐324.54

Court of Appeals reviews district court's ultimate determination as to whether patentee engaged in inequitable conduct before Patent and Trademark Office (PTO) for abuse of discretion; subsidiary factual questions of whether there was misrepresentation, materiality, and intent to deceive are reviewed for clear error.

#### 6. Patents ⇐97

Patent applicant's submission of declaration by head of its spectroscopy unit in connection with patent application for crystalline form of ranitidine hydrochloride that falsely identified sample tested and falsely claimed x-ray powder diffraction study was conducted on drug created by particular process, was not inequitable conduct, even though declara-

tion contained material misstatements, absent evidence of intent to deceive Patent and Trademark Office (PTO).

#### 7. Patents ⇐97

Intent to deceive Patent and Trademark Office (PTO) is often inferred from surrounding circumstances when material misrepresentation is shown, for purpose of alleged infringer's claim that patentee engaged in inequitable conduct before PTO, but such inference is not required in every case, even when misrepresentation is in affidavit form.

#### 8. Patents ⇐98, 99

Corporate applicant seeking patent for crystalline form of ranitidine hydrochloride did not violate best mode requirement by failing to disclose azeotroping mode of preparing ranitidine hydrochloride for pharmaceutical use, even though corporation officials believed azeotroping was best mode of making invention, where inventor, who was employed by corporation, did not know azeotroping was best procedure; knowledge of best mode could not be imputed to inventor for purposes of finding violation of best mode requirement. 35 U.S.C.A. § 112.

#### 9. Patents ⇐99

Best mode of carrying out invention to be disclosed pursuant to statute is that contemplated by inventor. 35 U.S.C.A. § 112.

#### 10. Patents ⇐99

Best mode inquiry focuses on inventor's state of mind at time inventor filed patent application, raising subjective factual question; specificity of disclosure required to comply with best mode requirement must be determined by knowledge of facts within possession of inventor at time of filing application. 35 U.S.C.A. § 112.

#### 11. Patents ⇐98, 99

"Enablement" looks to placing subject matter of patent claims generally in possession of public, while "best mode" analysis looks to whether specific instrumentalities and techniques have been developed by inventor and known to inventor at time of filing as best way of carrying out invention; thus enablement requirement looks to objective

knowledge of one of ordinary skill in the art, while "best mode" inquiry is subjective, factual one, looking to inventor's state of mind. 35 U.S.C.A. § 112.

See publication Words and Phrases for other judicial constructions and definitions.

#### 12. Patents ⇐99

Fact that inventor of drug which was subject of patent application was isolated from others in company who knew of azeotropic process used to formulate drug, which was best mode for practicing patent, did not mean that knowledge of best mode could be imputed to inventor. 35 U.S.C.A. § 112.

#### 13. Patents ⇐98

Inventor of drug which was subject of patent application was presumed to have reviewed specification and signed required declaration before application was filed, absent allegation that applicant did not comply with requirements involving inventor's participation. Practice Rules in Patent Cases, §§ 1.41(a), 1.51(a)(2), 1.63(b)(1), 2), 35 U.S.C.A.App.

#### 14. Patents ⇐99

Knowledge of best mode of practicing patent for ranitidine hydrochloride would not be imputed to inventor under principles of agency, where officials of company which employed inventor knew of best mode, as patent attorney did not enter into agency relationship with inventor for purpose of what was disclosed in inventor's patent application; scope of patent attorney's authority does not include supplementing or supplanting inventor's knowledge of invention. 35 U.S.C.A. § 112.

Stephen B. Judlowe, Hopgood, Calimafde, Kalil, Blaustein & Judlowe, New York City, argued for plaintiffs-appellees. With him on

the brief were William G. Todd and Janet B. Linn. Also on the brief were Steven P. Lockman, Arnold & Porter, Washington, DC, and Joseph W. Eason, Moore & Van Allen, Raleigh, NC, of counsel.

Robert F. Green, Leydig, Voit & Mayer, LTD., Chicago, IL, argued for defendant-appellant. With him on the brief were John E. Rosenquist and Jeffrey S. Ward.

Before ARCHER, Chief Judge, RICH, and MAYER, Circuit Judges.

Opinion for the court filed by Circuit Judge RICH. Dissenting opinion filed by Circuit Judge MAYER.

RICH, Circuit Judge.

Novopharm Ltd. (Novopharm) appeals the judgment of the United States District Court for the Eastern District of North Carolina, *Glaxo, Inc. v. Novopharm Ltd.*, 830 F.Supp. 871, 29 USPQ2d 1126 (E.D.N.C.1993), that United States Patent No. 4,521,431 was not invalid and was infringed, and enjoining Novopharm from the commercial manufacture or sale of the patented crystalline form of ranitidine hydrochloride. We affirm.

#### Background

Glaxo Inc. and Glaxo Group Ltd. (collectively Glaxo) are the owner and exclusive United States licensee, respectively, of United States Patent No. 4,521,431 ('431 patent). The '431 patent claims a specific crystalline form of the compound ranitidine hydrochloride, designated as "Form 2," which Glaxo markets as an antiulcer medication under the brand name Zantac.<sup>1</sup> The '431 patent issued on June 4, 1985.

In 1976, Glaxo chemists investigating potential antiulcer medications synthesized an aminoalkyl furan derivative, later named ran-

intensities (1) (s = strong, m = medium, w = weak, v = very, d = diffuse) and obtained by the Debye Scherrer method in a 114.6 mm diameter camera by exposure for 12 hours to CoK<sub>α</sub> radiation and for 3 hours to CuK<sub>α</sub> radiation: [table].

The '431 patent also claims various pharmaceutical compositions and methods of using Form 2 ranitidine hydrochloride. These claims are not at issue in this case.

1. Claims 1 and 2 of the '431 patent, in issue here, read:

1. Form 2 ranitidine hydrochloride characterized by an infra-red spectrum as a mull in mineral oil showing the following main peaks: [list of peaks]

2. Form 2 ranitidine hydrochloride according to claim 1 further characterized by the following x-ray powder diffraction pattern expressed in terms of "d" spacings and relative

itidine, which proved to be a potent histamine blocker, inhibiting the secretion of stomach acid. Later that year, Glaxo filed an application for a patent on ranitidine in the United Kingdom. It followed with an application for a United States patent, which issued as No. 4,128,658 ('658 patent) on December 5, 1978. The '658 patent claims a number of structurally similar compounds, including ranitidine and its hydrochloride salt. It discloses one method for preparing ranitidine hydrochloride, set forth in the '658 patent as Example 32.<sup>2</sup>

Glaxo prepared large quantities of ranitidine hydrochloride between 1977 and 1980 for use in toxicology and clinical studies. Instead of using the process of Example 32, however, Glaxo's chemists prepared this material using a similar process that they labelled Process 3A. They later developed a more efficient method that they called Process 3B. Until April 15, 1980, both Process 3A and Process 3B yielded ranitidine hydrochloride identical in all respects to that originally produced using the Example 32 procedure.

On that date, however, Glaxo's Derek Crookes used Process 3B to prepare crystalline ranitidine hydrochloride that was visibly different from all previous batches of the salt. The difference was confirmed by infrared (IR) spectroscopy and x-ray powder diffraction, which revealed that the new product was a crystalline form, or polymorph, of ranitidine hydrochloride that differed from the previously known form. Glaxo began to refer to this new polymorph as Form 2 ranitidine hydrochloride (designating the old polymorph as Form 1).

2. Developed by Glaxo's David Collin in June 1977, that method involves dissolving ranitidine in industrial methylated spirit containing dissolved hydrogen chloride gas. Ethyl acetate is added to the solution, and ranitidine hydrochloride precipitates from solution as a crystalline solid characterized by a melting point of 133-134°C.
3. Azeotroping is a technique for separating a chemical mixture, the components of which would otherwise be difficult to separate because of the similarity of their boiling points. An additional substance is added to the mixture, selected

Because Form 2 had better filtration and drying properties, making it better suited for commercial applications, Glaxo decided to proceed with commercialization of Form 2 rather than Form 1. Form 2 was hampered by poor flow properties, however, which made the material difficult to measure and dispense in its pure form. Accordingly, Glaxo scientists developed a novel azeotroping process<sup>3</sup> to granulate the Form 2 salt, which made it much easier to make into pharmaceutical compositions. This process was the subject of a British patent application that Glaxo eventually abandoned without disclosing the process to the public.

Glaxo filed a patent application covering Form 2 ranitidine hydrochloride in the United Kingdom on October 1, 1980. It filed a United States application thereon the next year, which eventually issued as the '431 patent in suit. When George Graham Brereton, Glaxo's patent officer initially charged with pursuing the United States application, learned of the azeotropic granulation process and Glaxo's desire to keep that process secret, he recommended that Glaxo not claim pharmaceutical compositions of the Form 2 salt for fear of violating the best mode requirement. Brereton apparently believed that disclosure of the azeotroping process would be necessary because it was the best way to make the Form 2 salt for use in preparing pharmaceutical compositions. He later moved to another position at Glaxo. The U.S. application was eventually amended to include pharmaceutical composition claims, but Glaxo did not amend the specification to disclose the azeotroping process.

On August 9, 1991, Novopharm Ltd. filed an Abbreviated New Drug Application (ANDA) with the Food and Drug Adminis-

for its ability to interact with a component of the original mixture to form an azeotrope—a mixture of substances "the composition of which does not change upon distillation." See *McGraw-Hill Dictionary of Scientific and Technical Terms* 162 (4th ed. 1989). If the proper substance is selected, the resulting azeotrope will have a boiling point that differs substantially from the desired component of the original mixture. The desired component can then be successfully separated from the azeotrope by distillation. See *Hawley's Condensed Chemical Dictionary* 109 (11th ed. 1987).

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tration (FDA), seeking FDA approval to manufacture and sell a generic version of Form 2 ranitidine hydrochloride beginning December 5, 1995, the expiration date of the '658 patent, well before the expiration date of the '431 patent in 2002. Glaxo filed this suit for patent infringement on November 13, 1991, alleging technical infringement of claims 1 and 2 of the '431 patent by the ANDA filing as provided in 35 U.S.C. § 271(e)(2) (1988). Novopharm admitted infringement of the claims, but contended that the '431 patent was invalid because it was anticipated by the disclosure of the '658 patent.

Novopharm later amended its answer to add the defense of inequitable conduct arising from alleged false and misleading affidavits provided to the U.S. Patent and Trademark Office (PTO) during prosecution of the applications from which the '431 patent issued. Finally, on June 21, 1993, Novopharm sought summary judgment based on a third defense, Glaxo's alleged failure to disclose the best mode of practicing the claimed invention. The trial court denied the motion, and the case was tried to the court beginning on August 9, 1993.

On the question of anticipation, the court found that Novopharm had not carried its burden of proving by clear and convincing evidence that practice of Example 32 of the '658 patent always produced Form 2 ranitidine hydrochloride, so that Form 2 was not inherently disclosed by Example 32. As for inequitable conduct, the court agreed with Novopharm that the affidavits presented to the examiner were misleading and material, but it found that Novopharm had failed to prove any deceptive intent. The court also concluded that there was no violation of the best mode requirement because Novopharm had not proved that Crookes, the inventor, knew of the best mode, the statute and this court's precedent providing that knowledge by the inventor himself is required. Accordingly, the court held that the '431 patent was not invalid, was enforce-

able and infringing, and ordered that Novopharm refrain from commercial manufacture or sale of Form 2 ranitidine hydrochloride before the '431 patent expires. Novopharm appeals.

### Discussion

#### I. Example 32, Anticipation

[1, 2] We consider first Novopharm's argument that the district court erred in holding that Novopharm did not prove that the claims in suit of the '431 patent were anticipated by Example 32 of the '658 patent. Anticipation is a factual matter, which we review under the clearly erroneous standard. *Diversitech Corp. v. Century Steps Inc.*, 850 F.2d 675, 677, 7 USPQ2d 1315, 1317 (Fed. Cir.1988). A claim is anticipated and therefore invalid only when a single prior art reference discloses each and every limitation of the claim. 35 U.S.C. § 102(a) (1988); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed.Cir. 1986). The disclosure need not be express, but may anticipate by inherency where it would be appreciated by one of ordinary skill in the art. *Continental Can Co. USA Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed.Cir.1991).

[3] Novopharm maintains that the invention claimed in the '431 patent, ranitidine hydrochloride in its Form 2 crystalline polymorph, is inherently disclosed in the '658 patent because the practice of Example 32 always yields ranitidine hydrochloride in its Form 2 polymorph. Novopharm's experts performed the process disclosed in Example 32 of the '658 patent thirteen times and each time they made Form 2 crystals, not Form 1 as Glaxo claims.

But the district court found that the practice of Example 32 could yield crystals of either polymorph. It specifically found that Glaxo's David Collin originally made Form 1 by practicing Example 32, and that Glaxo's expert, Nicholas Crouch, did too.<sup>4</sup> We are not persuaded that these findings are clearly

found that one skilled in the art would understand that these procedures were consistent with the teaching of Example 32. We do not see where the court erred in this finding.

4. Novopharm suggests that the court was wrong in finding that these experiments were within the scope of Example 32 because they employed procedures that sometimes departed from the strict letter of Example 32. The district court

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erroneous. The district court correctly rejected the anticipation defense.

## II. Inequitable Conduct

Novopharm contends that the trial court erred as a matter of law in declining to infer an intent to deceive from Glaxo's material misrepresentations to the PTO. The charge of inequitable conduct arises from a declaration submitted by John Harold Hunt, the head of Glaxo's spectroscopy group, in response to a rejection in light of the product of Example 32 of the '658 patent.<sup>5</sup>

[4,5] To prevail on its inequitable conduct defense, Novopharm had to show by clear and convincing evidence that Glaxo misrepresented facts to the PTO during prosecution of the '431 patent, that the misrepresentation was material, and that Glaxo acted with the intent to deceive the PTO. *Kingsdown Medical Consultants Ltd. v. Hollister Inc.*, 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed.Cir.1988). We review the district court's ultimate determination for abuse of discretion; the subsidiary factual questions of whether there was a misrepresentation, its materiality, and intent to deceive are reviewed for clear error. *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1215, 18 USPQ2d 1016, 1028 (Fed.Cir.), *cert. denied*, 502 U.S. 856, 112 S.Ct. 169, 116 L.Ed.2d 132 (1991).

[6] On August 28, 1983, the examiner rejected claims 1 and 2 of Glaxo's Form 2 ranitidine hydrochloride patent application as anticipated by or obvious in light of the disclosure of the '658 patent. Glaxo argued that its claims were drawn to a specific crystalline form of ranitidine hydrochloride different from the compound disclosed in the '658 patent. The examiner asked for a showing that the claimed Form 2 ranitidine hydrochloride was patentably distinct from the prior art composition.

To overcome the rejection, Glaxo submitted Hunt's declaration comparing the IR spectra and x-ray powder diffraction patterns of the two crystalline forms. The declaration

concluded that there were significant differences between the two products; a second declaration attested to the practical differences between the two polymorphs that made the Form 2 ranitidine hydrochloride preferable for commercialization.

[7] Intent is often inferred from surrounding circumstances when a material misrepresentation is shown. *Paragon Podiatry Lab. v. KLM Lab.*, 984 F.2d 1182, 1189, 25 USPQ2d 1561, 1567 (Fed.Cir.1993). But an inference is not required in every case, even when the misrepresentation is in affidavit form. Glaxo admits that the Form 1 data submitted with the Hunt declaration was not obtained from ranitidine hydrochloride prepared according to Example 32 of the '658 patent. The trial court concluded from this that the declaration was misleading, because it suggested falsely that the data had been obtained from the product of Example 32. The court also found that the misstatement was material. But it nevertheless concluded that an inference of fraudulent intent was unwarranted. We have not been persuaded otherwise.

The court found that as head of spectroscopy, Hunt was familiar with data obtained from Form 1 material, including that originally made by Collin according to Example 32. He knew that in each case the Form 1 data was different from that obtained for Form 2. The court found that there was no difference between the IR spectrum of the Form 1 hydrochloride obtained according to Example 32 and that obtained by other methods. Likewise, although the Example 32 material was never subjected to x-ray diffraction analysis, material produced by other methods yielded a consistent powder diffraction pattern that was different from that obtained from Form 2 crystals; this material exhibited an IR spectrum identical to that of the Example 32 material.

The trial court concluded that Hunt did not believe there were any differences between material produced using Example 32 and the material from which he obtained the

death in 1985.

data analyzed in ly, the court fou carry its burden by clear and co this conclusion i cient reason to r and definite be erred.

## II.

[8] Novopha failed to disclose the invention, th it uses to form ranitidine hydro compositions. T little more than after Glaxo pro which Novopha mary judgment disclose the bes before trial, the pharm's motion not hold as a ma knew that the a best mode of ma chloride, and sun fore be denied." *Ltd.*, 830 F.Sup. The district cou served for trial whether and to v other Glaxo em imputed to Dr. C ing a best mode

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6. The 1793 Act s chine [the invent ple, and the se contemplated the character, by whi other inventions.' §.3, 1 Stat. 318.

The 1836 Act s [the inventor] sh

5. The case was complicated by the trial court's inability to hear testimony from Hunt due to his

data analyzed in his declaration. Accordingly, the court found that Novopharm failed to carry its burden of proving intent to deceive by clear and convincing evidence. Although this conclusion is debatable, that is not sufficient reason to reverse in the absence of firm and definite belief that the district court erred.

### III. Best Mode

[8] Novopharm next asserts that Glaxo failed to disclose the best mode of practicing the invention, that is, the azeotroping process it uses to formulate the claimed Form 2 ranitidine hydrochloride into pharmaceutical compositions. The best mode defense arose little more than two months before trial just after Glaxo produced documents based on which Novopharm filed a motion for summary judgment of invalidity for failure to disclose the best mode. Less than a week before trial, the district court denied Novopharm's motion stating that "the court cannot hold as a matter of law that Dr. Crookes knew that the azeotroping process was the best mode of manufacturing ranitidine hydrochloride, and summary judgment must therefore be denied." *Glaxo, Inc. v. Novopharm Ltd.*, 830 F.Supp. 869, 871 (E.D.N.C.1993). The district court further stated that it reserved for trial "ruling on the question of whether and to what extent the knowledge of other Glaxo employees and agents may be imputed to Dr. Crookes for purposes of finding a best mode analysis [sic, violation]." *Id.*

At trial, Novopharm produced evidence that officials at Glaxo knew of the azeotroping process and considered it to be the best mode of making Form 2 ranitidine hydrochloride into a pharmaceutical composition. Novopharm argued in district court, as it does here, that the knowledge of the azeotroping process by Glaxo officials should be

imputed to inventor Crookes for purposes of finding a best mode violation.

The trial court found Novopharm's argument to have some "intuitive appeal" since Glaxo "has enjoyed the monopoly the issued patent provides." *Glaxo*, 830 F.Supp. 871, 881-82, 29 USPQ2d 1126, 1134 (E.D.N.C. 1993). Indeed, the trial court stated that if it were to impute the knowledge of others to the inventor of the '431 patent, "then clearly the court would be required to find a best mode violation." *Id.* at 882. The trial court concluded, however, that the statute, 35 U.S.C. § 112, first paragraph, and this court's holding in *Texas Instruments, Inc. v. United States International Trade Commission*, 871 F.2d 1054, 10 USPQ2d 1257 (Fed. Cir.1989) do not permit using imputed knowledge in a best mode analysis. The district court concluded that Novopharm "as a matter of law ... failed to show the '431 patent should be invalidated based on a best mode violation." *Id.* at 882. On appeal, Novopharm asserts that the district court erred as a matter of law in holding that a best mode defense cannot be found in the absence of proof that the inventor knew of that mode.

The statutory provision at issue sets forth that:

The specification ... shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. § 112, first paragraph (1988).

[9] The statutory language could not be clearer. The best mode of carrying out an invention, indeed if there is one, to be disclosed is that "contemplated by the inventor." That the best mode "belongs" to the inventor finds consistent support in previous statutory language as well.<sup>6</sup> Additionally, the commentary on the 1952 Patent Act states with respect to the best mode provision that "[t]his requirement, it should be noted, is not absolute, since it only requires

and the several modes in which he has contemplated the application of the principle or character by which it may be distinguished from other inventions." Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117.

The Act of 1870 changed the "several modes" provision of the previous Acts to the present-day "best mode." Act of July 7, 1870, ch. 230, § 26, 16 Stat. 198.

6. The 1793 Act stated: "in the case of any machine [the inventor] shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character; by which it may be distinguished from other inventions." Act of Feb. 21, 1793, ch. 11, § 3, 1 Stat. 318.

The 1836 Act stated: "in case of any machine, [the inventor] shall fully explain the principle,

disclosure of the best mode contemplated by the inventor, presumably at the time of filing the application." P.J. Federico, Commentary on the New Patent Act, 35 U.S.C.A. §§ 1, 25 (1954).

In arguing that Glaxo did not comply with the best mode requirement of § 112, first paragraph, Novopharm relies on *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed.Cir.), cert. denied, 502 U.S. 856, 112 S.Ct. 169, 116 L.Ed.2d 132 (1991), for the proposition that the best mode requirement lies at the heart of the statutory quid pro quo of the patent system. This is true enough. However, *Amgen*, consistent with the statute, speaks of the best mode requirement in terms of the best mode contemplated by the inventor. *Amgen*, 927 F.2d at 1210, 18 USPQ2d at 1024 ("Our case law has interpreted the best mode requirement to mean that there must be no concealment of a mode known by the inventor to be better than that which is disclosed.") (emphasis added). In fact, as we have previously stated, the sole purpose of the best mode requirement "is to restrain inventors from applying for patents while at the same time concealing from the public preferred embodiments of their inventions which they have in fact conceived." *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 926, 16 USPQ2d 1033, 1035 (Fed.Cir. 1990) (emphasis added) (quoting *In re Gay*, 309 F.2d 769, 772, 135 USPQ 311, 315 (CCPA 1962)); see *Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d 415, 419, 8 USPQ2d 1692, 1696 (Fed.Cir.1988), cert. denied, 490 U.S. 1067, 109 S.Ct. 2068, 104 L.Ed.2d 633 (1989).

[10] The best mode inquiry focuses on the inventor's state of mind at the time he filed his application, raising a subjective factual question. *Chemcast*, 913 F.2d at 926, 16 USPQ2d at 1035. The specificity of disclosure required to comply with the best mode requirement must be determined by the knowledge of facts within the possession of the inventor at the time of filing the application. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1535, 3 USPQ2d 1737, 1745 (Fed.Cir.), cert. denied, 484 U.S. 954, 108 S.Ct. 346, 98 L.Ed.2d 372 (1987).

[11] That the best mode inquiry is grounded in knowledge of the inventor is even more evident upon contrasting the best mode requirement of § 112 with the enablement requirement of that section. *Chemcast*, 913 F.2d at 926, 16 USPQ2d at 1035. "Enablement looks to placing the subject matter of the claims generally in the possession of the public." *Spectra-Physics*, 827 F.2d at 1532, 3 USPQ2d at 1742. Best mode looks to whether specific instrumentalities and techniques have been developed by the inventor and known to him at the time of filing as the best way of carrying out the invention. *Id.*; *Chemcast*, 913 F.2d at 927-28, 16 USPQ2d at 1036. The enablement requirement, thus, looks to the objective knowledge of one of ordinary skill in the art, while the best mode inquiry is a subjective, factual one, looking to the state of the mind of the inventor. Indeed, recently this court in addressing whether an applicant's best mode had to be updated upon filing a continuation application affirmed that the best mode requirement "focuses on what the inventor knows." *Transco Prods. Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 558, 32 USPQ2d 1077, 1083 (Fed.Cir.1994) (emphasis added), cert. denied, — U.S. —, 115 S.Ct. 1102, 130 L.Ed.2d 1069 (1995).

Based on the clear wording of the statute and our case law, the trial court properly rejected Novopharm's "imputed knowledge" best mode defense. As the trial court correctly noted, we held in *Texas Instruments* that there was no violation of the best mode requirement of § 112 by reason of knowledge of the purported best mode on the part of T.I. employees, other than the inventor, in the manufacturing group when the inventor did not know of or conceal this best mode. *Texas Instruments*, 871 F.2d at 1061, 10 USPQ2d at 1262.

There is simply no evidence in the record before us, indeed Novopharm points to none, that the inventor of the '431 patent knew of and concealed the azeotroping process when his application was filed. Inventor Crookes in a declaration in opposition to Novopharm's best mode summary judgment motion stated "I did not know of any azeotroping of ranitidine hydrochloride, or of its benefits, prior to

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commencement of this litigation. I did not—indeed, could not—consider the azeotrope process a 'best mode' of making ranitidine hydrochloride tablets at the time of filing any patent application." Crookes indicated that he worked in a different department than those who developed the azeotroping process.

As the district court observed, the record does indicate, however, that others at Glaxo knew of the azeotroping process and knew that this process would be used commercially to produce pharmaceutical forms of the claimed product.<sup>7</sup> The record also indicates that these individuals as well as their English patent agent were concerned that failure to disclose the azeotroping process may present a best mode problem. However, in neither instance did Glaxo nor its patent agent appropriately consider that inventor Crookes knew nothing of the azeotroping process. That Glaxo thought it may have a best mode problem either because of its incorrect or incomplete consideration of U.S. patent law does not make it so.

[12] Novopharm maintains that Glaxo intentionally isolated Crookes from knowledge of the azeotroping process leaving "it to others to commercialize and reduce the invention to practice." Thus, Novopharm fears that Glaxo purposefully prevented the inventor from gaining knowledge of the most advantageous application for his invention, the azeotroping process, so that that process could be maintained as a trade secret. That fear does not equate with a best mode violation.

In this case, Crookes was unconcerned with the commercialization of the claimed compound. It is undisputed that Crookes invented a compound and was not involved in whatever processes were to be used to commercially produce it. Therefore, whether Glaxo deliberately walled off the inventor is irrelevant to the issue of failure of his application to disclose the best mode known to him.

7. The claims at issue are not directed to a pharmaceutical compound. Therefore, there may be a question whether the azeotroping process is indeed the best mode of carrying out the claimed

[13] In arguing that Crookes was screened from knowledge, Novopharm relies on testimony of Glaxo's in-house patent agent that Crookes was not consulted "at any time" during the preparation of the application that matured into the '431 patent. This however, completely ignores the requirement that patents are applied for "in the name of the actual inventor or inventors" according to 37 C.F.R. § 1.41(a) (1983). The inventor(s) must submit an oath or declaration attesting that they have "reviewed and understand[ ] the contents of the specification" and believe "the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought." 37 C.F.R. § 1.63(b)(1), (2) (1992); see also 37 C.F.R. § 1.51(a)(2) (1992). Moreover, this court in *Sun Studs, Inc. v. Applied Theory Associates, Inc.*, 772 F.2d 1557, 1568, 227 USPQ 81, 89 (Fed.Cir.1985), recognized that 35 U.S.C. § 111 (1988) "requires that the inventor must apply for the patent." *Sun Studs*, 772 F.2d at 1568, 227 USPQ at 89 (emphasis in original). Novopharm has not alleged that these requirements were violated.

It is therefore presumed that Crookes, the inventor and applicant, must have reviewed the specification and signed the required declaration before the application was filed. Without more, Novopharm is simply wrong when it alleges that Crookes had nothing to do with determining what needed to be disclosed in his patent application.

Novopharm additionally contends that looking solely to the inventor's knowledge in a best mode analysis "makes a mockery of the best mode requirement, and fosters a 'head in the sand' mentality for corporate applicants."

However, the practical reality is that inventors in most every corporate scenario cannot know all of the technology in which their employers are engaged. Therefore, whether intentionally or not, inventors will be effectively isolated from research no matter how relevant it is to the field in which they are

invention. See *Chemcast*, 913 F.2d at 927, 16 USPQ2d at 1036. In view of our decision, however, it is not necessary for us to reach this issue.

working. Separating scenarios in which employers unintentionally isolate inventors from relevant research from instances in which employers deliberately set out to screen inventors from research, and finding a best mode violation in the latter case, would ignore the very words of § 112, first paragraph, and the case law as it has developed, which consistently has analyzed the best mode requirement in terms of knowledge of and concealment by the inventor. Congress was aware of the differences between inventors and assignees, see 35 U.S.C. §§ 100(d) and 152, and it specifically limited the best mode required to that contemplated by the inventor. We have no authority to extend the requirement beyond the limits set by Congress.

[14] The dissent argues that imputing knowledge of others than the inventor to the inventor for purposes of considering what was "contemplated by the inventor" in a best mode analysis "may be necessary under appropriate circumstances, to protect the public's 'paramount interest in seeing that patent monopolies spring from backgrounds free from fraud or other inequitable conduct.'" The dissent contends that such knowledge can be imputed to the inventor under principles of agency law stating that, "[a]n agent's acts and knowledge can be imputed to the principal when necessary to protect the interests of others, so long as the acts or knowledge in question fall within the scope of the agent's authority," citing Restatement (Second) of Agency, § 261.

The Restatement defines agency as "the fiduciary relation which results from the manifestation of consent by one person to another that the other shall act on his behalf and subject to his control, and consent, by the other so to act." Restatement (Second) of Agency, § 1.

The flaw in the dissent's analysis is that a patent attorney<sup>8</sup> does not enter into an agency-relationship with the inventor for purposes of what is disclosed in the inventor's patent application. Simply, the inventor never authorizes his patent attorney to "act on

8. A "patent agent" is subsumed within this term as a patent agent acts as the inventor's attorney before the PTO. The label "patent agent" does

his behalf" with respect to disclosing the invention. Or, in the terms used by the dissent, the scope of the patent attorney's authority does not include inventing, i.e., either supplementing or supplanting the inventor's knowledge of his own invention. Rather, the information disclosed in the inventor's patent application must be that which is actually known to him. The statute requires that he submit an oath to this effect. See 35 U.S.C. § 115 (1988).

An agency relationship may exist during prosecution before the PTO where the patent attorney is acting on the inventor's behalf. See 37 C.F.R. § 1.56(a) (1992). An agency relationship does not exist, however, with respect to what an inventor must disclose in order to obtain a patent on his invention, which includes, of course, any best mode under § 112. Therefore, in addition to being inconsistent with § 112, as explained above, because an agency relationship does not exist for purposes of what is disclosed in a patent application, it would be improper to impute a patent attorney's knowledge of a best mode to the inventor for purposes of finding a best mode violation.

In any case, the dissent's application of general agency principles to the analysis of best mode disclosure under § 112 is an entirely new idea and is not existing law.

The trial court here correctly noted that this court has "found that the absence of a showing of actual knowledge by the inventor was dispositive of the defendant's best mode argument" and held that the law "does not permit using *imputed knowledge*" in a best mode defense. *Glaxo*, 830 F.Supp. at 881-82, 29 USPQ2d at 1135 (emphasis added). The district court therefore correctly rejected the best mode defense.

#### IV. Conclusion

Accordingly, the judgment of the United States District Court for the Eastern District of North Carolina is affirmed.

#### AFFIRMED.

not mean there is an agency relationship, rather than an attorney-client relationship, between the inventor and such individual for all purposes.

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MAYER, *Circuit Judge*, dissenting.

With this case, the court blesses corporate shell games resulting from organizational gerrymandering and willful ignorance by which one can secure the monopoly of a patent while hiding the best mode of practicing the invention the law expects to be made public in return for its protection. Because I believe this is a perverse interpretation of the law, I dissent.

The best mode requirement arises from the first paragraph of 35 U.S.C. § 112 (1988), which provides that the patent specification "shall set forth the best mode contemplated by the inventor of carrying out his invention." The best mode inquiry is twofold: first, did the inventor know of a preferred mode or embodiment of the invention; and second, did the inventor disclose that mode sufficiently to allow those skilled in the art to practice it. *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 928, 16 USPQ2d 1033, 1036 (Fed.Cir.1990). The first question is largely subjective, looking to the inventor's knowledge and belief. The second is more objective, focusing on the scope of the invention and the level of skill in the art. *Id.* Compliance with the best mode requirement is a factual question, which we review for clear error. *Engel Indus. Inc. v. Lockformer Co.*, 946 F.2d 1528, 1531, 20 USPQ2d 1300, 1302 (Fed.Cir.1991). But this assumes a correct understanding of the relevant law, which we review de novo. See *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1536, 3 USPQ2d 1737, 1745 (Fed.Cir.1987).

Novopharm says Glaxo did not disclose the best mode of practicing the invention—the azeotropic granulation process it used to formulate ranitidine hydrochloride into pharmaceutical compositions. This defense became relevant only late in the game when, on June 2, 1993, Glaxo produced some documents that indicated that it had withheld information about the granulation process. Novopharm moved for summary judgment based on the best mode violation, which the district court denied, *Glaxo, Inc. v. Novopharm Ltd.*, 830 F.Supp. 869 (E.D.N.C.1993), but allowed Novopharm to present the best mode defense at trial. Novopharm tried to take discovery on the issue, including a deposition of Crookes,

the named inventor of the '431 patent, and Collin, his immediate supervisor. After Glaxo resisted and sought a protective order, the district court denied Novopharm any discovery, and the case proceeded to trial on August 9, 1993. At the close of Novopharm's case-in-chief on its best mode defense, the court decided to rule on that question as a matter of law, no factual issues remaining. Glaxo presented no evidence on the issue. The court held that because Crookes had no personal knowledge of the best mode, there was no requirement that it be disclosed.

Glaxo first suggests that the azeotropic granulation process was not an appropriate candidate for disclosure because it fell outside the scope of the claimed invention. Rather, Glaxo says the process is simply a production technique useful in the formulation of ranitidine hydrochloride into pharmaceutical compositions. It says the process is therefore relevant, if at all, only to the claims of the '431 patent that cover such compositions. No such claims are at issue here, so Glaxo says the best mode should not be considered.

But the statutory language demands that the patent disclose the best mode of "carrying out" the claimed invention. As the district court recognized, this language encompasses not only modes of making the invention, but of using it as well. See *Christianson v. Colt Indus. Operating Corp.*, 822 F.2d 1544, 1563, 3 USPQ2d 1241, 1255 (Fed.Cir. 1987), *vacated on other grounds*, 486 U.S. 800, 108 S.Ct. 2166, 100 L.Ed.2d 811 (1988). The azeotroping process was the best way to formulate raw ranitidine hydrochloride into pharmaceutical compositions suitable for use as a drug in human patients, the only use Glaxo contemplated for the invention. Glaxo admits the process was not generally known to those skilled in the art. Accordingly, the court could have found that disclosure of the process was required by section 112, so long as the other, subjective, elements of the best mode test were met. Cf. *Chemcast*, 913 F.2d at 930, 16 USPQ2d at 1038 ("Whether characterizable as 'manufacturing data,' 'customer requirements,' or even 'trade secrets,' information necessary to practice the best mode simply must be disclosed.").

The best mode inquiry begins with what the inventor knew when he filed his application. This subjective part of the inquiry traditionally rests on the factual question whether the inventor actually contemplated a preferred mode. *Chemcast*, 913 F.2d at 928, 16 USPQ2d at 1036. But the inquiry is not limited to the inventor's actual knowledge.

The court believes *Texas Instruments, Inc. v. United States International Trade Commission*, 871 F.2d 1054, 10 USPQ2d 1257 (Fed.Cir.1989), expressly limited best mode to the inventor's actual knowledge, but that case includes no such limitation. We merely agreed with the Commission that Texas Instrument's computer component patents were not invalid for failure to disclose the alleged best mode, a so-called "word boost" feature, because "[t]he record does not disclose that the applicant knew of or concealed a better mode than he disclosed." 871 F.2d at 1061, 10 USPQ2d at 1262 (quoting Commission findings).

The problem arises from reading one sentence of the *Texas Instruments* opinion out of context. We said that "[t]he fact that Texas Instruments may have manufactured a DRAM containing a different or better form of boosting means is not pertinent to whether the specification disclosed" the best mode known to the inventors. *Id.* The court reads this to parallel the facts of our case—that the employer of the named inventors developed the alleged best mode wholly without the inventors' knowledge, and that there was no best mode problem because the inventors did not know of it.

But as our opinion in *Texas Instruments* shows, the inventors did know of the word boost feature, but did not believe that it was part of the best mode. *Id.* ("[T]hat the inventors themselves did not consider the 'word boost' feature to be part of the best mode of their invention refutes any argument that the inventor 'knew of and concealed a better mode than he disclosed.'"). Accordingly, *Texas Instruments* stands only for the

unremarkable proposition that there is no best mode violation where the inventor knew of the alleged mode and did not consider it to be a part of the preferred embodiment. It says nothing about whether specific knowledge of a best mode by a corporate assignee/employer may be imputed to the inventor/employee. Nor does any other precedent of this court.

As the district court recognized, "Glaxo, and not Crookes individually, . . . both directed the patent prosecution and has enjoyed the monopoly the issued patent provides." 830 F.Supp. at 881-82. Glaxo employees acted as agents for inventor Crookes during prosecution of the U.S. application. They were also agents for Glaxo, the assignee of the application and later the owner of the '431 patent. And that is the crucial point: Glaxo, not Crookes, brought this suit against Novopharm for infringement of the patent. Accordingly, Glaxo's conduct and knowledge during prosecution is important to the resolution of this case; it is not irrelevant, as the court says.

Glaxo says, and the court agrees, that it did not have to disclose the azeotroping process because Crookes did not know of that method of preparing pharmaceutical compositions of Form 2 ranitidine hydrochloride. On the record before us, one wonders how Glaxo could have been sure of what Crookes knew. Brereton, the Glaxo employee charged with initiating the application for the '431 patent, testified that he did not consult Crookes, the named inventor, at any time. Instead, in accordance with Glaxo's standard patent policy, Brereton conferred with Crookes' superiors to obtain all of the information necessary to secure a patent on the invention. It strikes me as incongruous to rely on the inventor's actual knowledge here if Glaxo indeed thought that knowledge was so insignificant that it did not even merit consultation during preparation of the application.\* At the very least, the district court

these regulations speaks to the best mode requirement. Nor are we told how Crookes could sign such an oath if he was never consulted before the application was filed. Perhaps the court has hit upon grounds for a charge of ineq-

\* The court finds comfort in the regulations requiring that the inventor sign an oath attesting that he has reviewed the application, 37 C.F.R. §§ 1.41(a), 1.51(a)(2) & 1.63(b)(1), (2), reasoning that Glaxo must have at least let Crookes review the application before it was filed. But none of

should have given Novopharm the chance at discovery about just what Crookes in fact knew.

But I believe that even absent further discovery the district court could have found a best mode violation in this case. As the district court stated,

[I]t is undisputed, however, Brereton and other officers within Glaxo believed azeotroping was the best mode of preparing ranitidine hydrochloride for pharmaceutical use, and Glaxo actually utilized this method in the commercial production of ranitidine hydrochloride. These officials within Glaxo made a deliberate choice not to reveal what they believed to be the best mode of making the patented invention, but instead to protect the knowledge as a trade secret.

830 F.Supp. at 881. This recitation suggests that Glaxo set out to isolate Crookes from any knowledge about the azeotroping technique specifically to avoid the best mode disclosure requirements. If true, these circumstances would justify imputing knowledge to Crookes from Brereton and the other Glaxo employees who acted as agents for Crookes during the application process. I would remand to allow the district court to make the necessary factual findings and decide whether to impute that knowledge.

Imputing knowledge to an inventor may be necessary under appropriate circumstances, to protect the public's "paramount interest in seeing that patent monopolies spring from backgrounds free from fraud or other inequitable conduct." *Precision Instrument Mfg. Co. v. Automotive Maintenance Mach. Co.*, 324 U.S. 806, 816, 65 S.Ct. 993, 998, 89 L.Ed. 1381 (1945) (endorsing equitable doctrine of unclean hands in patent suits). "The possession and assertion of patent rights are 'issues of great moment to the public.'" *Id.* at 815, 65 S.Ct. at 998. And the best mode requirement lies at the heart of this public interest. It is a vital part of the statutory *quid pro quo* that justifies a patent. *Amgen, Inc. v. Chu-gai Pharmaceutical Co.*, 927 F.2d 1200, 1210, 18 USPQ2d 1016, 1024 (Fed.Cir.1991). In return for a seventeen year monopoly the patentee must disclose his invention to the

equitable conduct against Glaxo that everyone else

public. But he must go beyond simply informing the public of the bare outlines of the invention. He must also tell what he believes to be the best embodiment of the invention, and he must do so in a way that allows the public to practice that embodiment. This prevents the inventor from obtaining patent protection with a minimal disclosure that reveals only inferior forms of the invention, while retaining for himself the most advantageous modes of carrying the invention into practice. *In re Gay*, 309 F.2d 769, 772, 135 USPQ 311, 315 (CCPA 1962). The court's pinched reading of the best mode requirement surely violates at least the spirit of this rule at the public's expense.

Imputing an agent's knowledge to the principal has sound roots in law and equity. An agent's acts and knowledge can be imputed to the principal when necessary to protect the interests of others, so long as the acts or knowledge in question fall within the scope of the agent's authority. Restatement (Second) of Agency, § 261 (principal liable for agent's fraud within scope of agency), § 274 (knowledge of agent acquiring property for principal imputed to principal); see also *American Soc. of Mechanical Engineers, Inc. v. Hydrolevel Corp.*, 456 U.S. 556, 566, 102 S.Ct. 1935, 1942, 72 L.Ed.2d 330 (1982) (principal liable for antitrust violation based on agent's fraud within apparent authority). This precept is firmly rooted in patent law as well, in the traditional doctrine of inequitable conduct, whereby the inventor's duty to disclose material information to the Patent Office is extended to all those involved in the filing and prosecution of a patent application. See 37 C.F.R. § 1.56 (1994); *Fox Indus. v. Structural Preservation Sys.*, 922 F.2d 801, 804, 17 USPQ2d 1579, 1581 (Fed.Cir.1990).

The fact that Crookes' agents knew about the process does not by itself justify imputing that knowledge to him. If he really was unfamiliar with the azeotroping process, that unfamiliarity may simply have resulted from the normal division of labor necessary within a large corporate enterprise. But the district court appears to have inferred a darker subtext—that Glaxo may have deliberately

missed.

set out to screen this inventor from the azeotropic technique to conceal the process for itself.

The problem is that Glaxo's version of best mode, which the court now adopts, would allow, if not encourage, employers to isolate their employee/inventors from research directed to finding the most advantageous applications for their inventions, knowledge that the inventors would probably have had but for the employer's efforts to keep the work secret. As a result, inventors may have only limited perspective on the real value of their inventions, and can accordingly share only this limited perspective with the public. All the while, the employer/assignee will have a view of the big picture, fully aware, through its other employees, of superior modes of practicing the invention. But the assignee will be under no obligation to disclose those modes to the public. This deliberate subversion of the statutory disclosure would deprive the public of the benefits of the best mode of practicing the invention. There is no reason why this court should condone such abuse of the public trust. *Cf. Precision Instrument Co.*, 324 U.S. at 815, 65 S.Ct. at 997-98.

I would hold that if there truly was such a pattern of deliberate concealment of information that would otherwise have been known to the inventor, the knowledge of those who sought to conceal that information and who now attempt to enforce the patent may be imputed to the inventor. The district court can refuse to enforce the patent and should be given the opportunity to do so with a correct understanding of its powers.



**BRIGHTON VILLAGE ASSOCIATES,**  
Herbert F. Gold, Juan M. Cofield, James  
E. Cofield, Jr., Trustee, and Herbert F.  
Gold, Trustee, Plaintiffs-Appellants,

v.

**The UNITED STATES, Defendant-  
Appellee.**

No. 94-5142.

United States Court of Appeals,  
Federal Circuit.

April 21, 1995.

Owner of Section 8 subsidized housing project brought action against Department of Housing and Urban Development (HUD) for breach of contract in failing to make annual rent adjustments. The Court of Federal Claims, Bohden A. Futey, J., 31 Fed.Cl. 324, dismissed in part as time barred and granted summary judgment to HUD on remaining claims, and owner appealed. The Court of Appeals, Rader, Circuit Judge, held that: (1) Court of Federal Claims had jurisdiction over claims; (2) owner's claims for years 1981 through 1984 were time barred; but (3) HUD breached housing assistance payments contract with owner by failing to make adjustments during 1985 and 1986.

Affirmed in part, reversed in part and remanded.

#### 1. Federal Courts ⇐1072

Court of Federal Claims has jurisdiction over claims against government for money damages. 28 U.S.C.A. § 1491(a)(1).

#### 2. Federal Courts ⇐1076

Court of Federal Claims had jurisdiction over owner's breach of contract claim against Department of Housing and Urban Development (HUD) for failure to adjust contract rents for Section 8 housing project; owner was seeking retroactive monetary relief for HUD's failure to adjust past contract rents. 28 U.S.C.A. § 1491(a)(1).

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June 22, 1983. These two papers, filed before decision, deal only with the printing of the Combined Appendix of ten volumes said to contain a total of 9,307 pages, 5,743 of which were designated by appellee after appellants had initially designated the balance. There is an excessively detailed dispute over how many of the pages designated by appellee were necessary. Appellee appears not to have contributed to the cost of printing the appendix, which cost, paid by appellants, is said to have been \$31,850.15. Federal Rule of Appellate Procedure (FRAP) 30(b) authorizes us to impose upon a party the cost of printing material "unnecessarily" included. FRAP Rule 39(a) provides that, in the absence of an order by the court, in the case of a reversal "costs shall be taxed against the appellee."

Having considered the foregoing, we have a clear appreciation of the impossibility of determining, within reason, exactly what was or was not necessarily included in the appendix in this extended and complex litigation. We conclude that, under all of the circumstances with which we have necessarily become familiar in deciding this case, it is fair and equitable that the parties share equally the cost of printing the Combined Appendix and that otherwise each party bear its own costs. In accordance with Rule 39(a), it is so ordered.

*Reversed and Remanded.*

Miller, Circuit Judge, concurring in part.

Although I agree with the majority's analysis and holding on the fraud issue, it seems appropriate to state my conclusion that, because of the unpredictability of propanil in 1957, the district court erred in granting R&H an April 4, 1957, date of conception rather than a date, concurrent with a reduction to practice, in the summer of 1957 — after the May 27, 1957, date of filing of Monsanto's application, so that the Monsanto patent constitutes a 35 U.S.C. §102(e) bar to the R&H patent. *Alpert v. Slatin*, 305 F.2d 891, 896, 134 USPQ 296, 301 (CCPA 1962).

**Court of Appeals, Federal Circuit**

W.L. Gore & Associates, Inc.  
v. Garlock, Inc.

Nos. 83-613/614

Decided Nov. 14, 1983.

**PATENTS**

**1. Court of Appeals for the Federal Circuit — Weight given decision reviewed (§26.59)**

Parties' argument relating to salutary injunction of FRCivP 52(a) cannot be controlling on all issues, where dispositive legal error occurred in interpretation and application of patent statute, 35 USC.

**2. Court of Appeals for the Federal Circuit — Weight given decision reviewed (§26.59)**

Findings that rest on erroneous view of law may be set aside on that basis.

**3. Construction of specification and claims — Claim defines invention (§22.30)**

Claims measure and define invention.

**4. Construction of specification and claims — Combination claims (§22.35)**

**Infringement — Process patents (§39.65)**

Court's restriction of claimed multi-step process to one step constitutes error, whether done at behest of patentee relying on that restriction to establish infringement by one who employs only that one-step in process otherwise distinct, or at behest of accused infringer relying on that restriction to establish invalidity by showing that one step in prior art process otherwise distinct; invention must be considered as whole.

**5. Court of Appeals for the Federal Circuit — Weight given decision reviewed (§26.59)**

CAFC is not at liberty to substitute its own for district court's findings underlying district court's conclusion that claim is invalid.

**6. Patentability — Anticipation — Process (§51.225)**

It is irrelevant that those using invention may not have appreciated results where patent owner's operation of device is consistent, reproducible use of claimed invention; were that alone enough to prevent anticipation, it would be possible to obtain patent for old and unchanged process.

**7. Use and sale — Extent and character of use (§69.5)**

Nonsecret use of claimed process in usual course of producing articles for commercial purposes is public use.

**8. Use and sale — Extent and character of use (§69.5)**

Patentees' commercialization of product produced by its patented process can result in forfeiture of patent granted them for that process on application filed by them more than one year later; however, their secret commercialization of process cannot be bar to patent grant on that process.

**9. Patent grant — Intent of patent laws (§50.15)**

Early public disclosure is linchpin of patent system.

**10. Interference — Priority (§41.70)**

Law disfavors prior inventor who benefits from process by selling its product but suppresses, conceals, or otherwise keeps process from public, as against later inventor who promptly files patent application from which public will gain disclosure of process.

**11. Patentability — Evidence of — In general (§51.451)**

District court that in its consideration of prior art disregarded unpredictability and unique nature of product to which claimed inventions relate errs.

**12. Construction of specification and claims — By prior art (§22.20)**

District court that in its consideration of prior art considers claims in less than their entireties errs.

**13. Patentability — Evidence of — Suggestions of prior art (§51.469)**

District court that considers references in less than their entireties, i.e., in disregarding disclosures in references that diverge from and teach away from invention at hand, errs.

**14. Construction of specification and claims — Comparison with other claims (§22.40)**

Claims must be considered individually and separately.

**15. Patentability — Anticipation — Combining references (§51.205)**

There must have been something present in teachings in references to suggest to one skilled in art that claimed invention before court would have been obvious.

**16. Patentability — Evidence of — Suggestions of prior art (§51.469)**

Fact that patentee proceeded contrary to accepted wisdom of prior art is strong evidence of nonobviousness.

**17. Patentability — Tests of — Skill of art (§51.707)**

Imbuing one of ordinary skill in art with knowledge of invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to insidious effect of hindsight syndrome wherein that which only inventor taught is used against its teacher.

**18. Patentability — Invention — In general (§51.501)****Patentability — Tests of — Skill of art (§51.707)**

Decisionmaker must forget what he or she has been taught at trial about claimed invention and cast mind back to time invention was made to occupy mind of one skilled in art who is presented only with references, and who is normally guided by then-accepted wisdom in art.

**19. Pleading and practice in courts — Burden of proof — Validity (§53.138)****Presumption for patent grant — Patent Office consideration of prior art (§55.5)**

It is not law that presumption of validity is weakened greatly where Patent Office has failed to consider pertinent prior art; presumption has no separate evidentiary value; it cautions decisionmaker against rush to conclude invalidity; submission of additional art that is merely "pertinent" does not dispel that caution; however, inescapable burden of persuasion on one who would prove invalidity remains throughout trial.

**20. Pleading and practice in courts — Burden of proof — Validity (§53.138)****Presumption from patent grant — Patent Office consideration of prior art (§55.5)**

Burden of proving invalidity may be facilitated by prior art that is more pertinent than that considered by PTO.

**21. Patentability — Evidence of — In general (§51.451)**

District court that specifically declines to consider objective evidence of nonobviousness errs; that evidence can often serve as insur-

ance against insidious attraction of siren hindsight when confronted with difficult task of evaluating prior art; even when prior art evidence points more in direction of nonobviousness than obviousness, objective evidence may tend to reassure decisionmaker.

**22. Patentability — Anticipation — In general (§51.201)**

Anticipation requires disclosure in single prior art reference of each element of claim under consideration.

**23. Patentability — Anticipation — Process (§51.225)**

**Patentability — Composition of matter (§51.30)**

Anticipation of inventions set forth in product claims cannot be predicated on mere conjecture respecting characteristics of products that might result from practice of processes disclosed in references.

**24. Patentability — Anticipation — Infringement as test (§51.211)**

Accused infringer's employment of process of dominating patent is not anticipation of invention described and claimed in improvement patent.

**25. Patentability — Anticipation — In general (§51.201)**

**Patentability — Invention — In general (§51.501)**

Inherency and obviousness are distinct concepts.

**26. Patentability — Evidence of — In general (§51.451)**

All evidence bearing on obviousness issue, as with any other issue raised in conduct of judicial process, must be considered and evaluated before required legal conclusion is reached.

**27. Patentability — Evidence of — In general (§51.451)**

Objective evidence of nonobviousness, i.e., "indicia" of *Graham v. John Deere Co.*, 148 USPQ 459, may in given case be entitled to more weight or less, depending on its nature and its relationship to invention's merits; it may be most pertinent, probative, and revealing evidence available to aid in reaching conclusion on obvious/nonobvious issue.

**28. Patentability — Evidence of — Commercial success — In general (§51.4551)**

Praise greeting products claimed in patent from suppliers, including owner of prior art

patent, is objective evidence of nonobviousness.

**29. Patentability — Composition of matter (§51.30)**

Claim to new product is not required to include critical limitations.

**30. Specification — Sufficiency of disclosure (§62.7)**

Patents are written to enable those skilled in art to practice invention, not public, and Section 112 speaks as of application filing date, not as of time of trial.

**31. Specification — Sufficiency of disclosure (§62.7)**

Section 112 requires that inventor set forth best mode of practicing invention known to him at time application was filed.

**32. Claims — Indefinite — In general (§20.551)**

Use of "stretching at rate exceeding specific percent per second" in claims is not indefinite.

**33. Claims — Specification must support (§20.85)**

It is claimed invention for which enablement is required.

**34. Specification — Sufficiency of disclosure (§62.7)**

Patent is not invalid merely because some experimentation is needed; patent is invalid only when those skilled in art are required to engage in undue experimentation to practice invention.

**35. Construction of specification and claims — Claim defines invention (§22.30)**

Distinguishing what infringes from what does not is role of claims, not of specification.

**36. Construction of specification and claims — Defining terms (§22.45)**

Patent applicant can be his own lexicographer.

**37. Defenses — Fraud (§30.05)**

Fraud must be shown by clear and convincing evidence; state of mind of one making representations is most important of elements to be considered in determining existence of fraud; good faith and subjective intent, while they are to be considered, should not necessarily be made controlling; under ordinary circumstances, fact of misrepresentation coup-

led with proof that party making it had knowledge of its falsity is enough to warrant drawing inference that there was fraudulent intent; where public policy demands complete and accurate disclosure it may suffice to show nothing more than that misrepresentations were made in atmosphere of gross negligence as to their truth.

**38. Pleading and practice in courts — Issues determined — Validity and infringement (§53.505)**

Better practice is for district court to decide both validity and infringement issues when both are contested at trial, enabling conduct of single appeal and disposition of entire case in single appellate opinion.

**39. Infringement — Tests of — Comparison with claim (§39.803)**

Infringement is decided with respect to each asserted claim as separate entity.

**Particular patents — Porous Products**

3,953,566, Gore, Process for Producing Porous Products, holding of invalidity of claims 3 and 19 reversed and of claims 1 and 17 affirmed.

4,187,390, Gore, Porous Products and Process Therefor, holding of invalidity reversed.

Appeal from District Court for the Northern District of Ohio, Manos, J., 220 USPQ 220.

Consolidated actions by W. L. Gore & Associates, Inc., against Garlock, Inc., for patent infringement, in which defendant counterclaims for declaratory judgment of patent invalidity, noninfringement, fraudulent solicitation, and entitlement to attorney fees. From judgment for defendant, plaintiff appeals and defendant cross-appeals. Affirmed in part, reversed in part, and remanded; Davis, Circuit Judge, concurring in result in part and dissenting in part, with opinion.

David H. Pfeffer, New York, N.Y. (J. Robert Dailey and Janet Dore, both of New York, N.Y.; and John S. Campbell, Newark, Del., of counsel) for appellant.

John J. Mackiewicz, Philadelphia, Pa. (Dale M. Heist, Philadelphia, Pa., on the brief, Bernard Ouziel, New York, N.Y., of counsel) for appellee.

Before Markey, Chief Judge, and Davis and Miller, Circuit Judges.

Markey, Chief Judge.

Appeal from a judgment of the District Court for the Northern District of Ohio holding U.S. Patents 3,953,566 ('566) and 4,187,390 ('390) invalid. We affirm in part, reverse in part, and remand for a determination of the infringement issue.

*Background*

Tape of unsintered polytetrafluorethylene (PTFE) (known by the trademark TEFLON of E.I. du Pont de Nemours, Inc.) had been stretched in small increments. W. L. Gore & Associates, Inc. (Gore), assignee of the patents in suit, experienced a tape breakage problem in the operation of its "401" tape stretching machine. Dr. Robert Gore, Vice President of Gore, developed the invention disclosed and claimed in the '566 and '390 patents in the course of his effort to solve that problem. The 401 machine was disclosed and claimed in Gore's U.S. Patent 3,664,915 ('915) and was the invention of Wilbert L. Gore, Dr. Gore's father. PTFE tape had been sold as thread seal tape, i.e., tape used to keep pipe joints from leaking. The '915 patent, the application for which was filed on October 3, 1969, makes no reference to stretch rate, at 10% per second or otherwise, or to matrix tensile strength in excess of 7,300 psi.

Dr. Gore experimented with heating and stretching of highly crystalline PTFE rods. Despite slow, careful stretching, the rods broke when stretched a relatively small amount. Conventional wisdom in the art taught that breakage could be avoided only by slowing the stretch rate or by decreasing the crystallinity. In late October 1969, Dr. Gore discovered, contrary to that teaching, that stretching the rods as fast as possible enabled him to stretch them to more than ten times their original length with no breakage. Further, though the rod was thus greatly lengthened, its diameter remained virtually unchanged throughout its length. The rapid stretching also transformed the hard, shiny rods into rods of a soft, flexible material.

Gore developed several PTFE products by rapidly stretching highly crystalline PTFE, including: (1) porous film for filters and laminates; (2) fabric laminates of PTFE film bonded to fabric to produce a remarkable material having the contradictory properties of impermeability to liquid water and permeability to water vapor, the material being used to make "breathable" rainwear and filters; (3) porous yarn for weaving and braiding into other products, like space suits and pump packing; (4) tubes used as replacements for human arteries and veins; and (5) insulation for high performance electric cables.

On May 21, 1970, Gore filed the patent application that resulted in the patents in suit. The '566 patent has 24 claims directed to processes for stretching highly crystalline, unsintered, PTFE. The processes, inter alia, include the steps of stretching PTFE at a rate above 10% per second and at a temperature between about 35°C and the crystalline melt point of PTFE. The '390 patent has 77 claims directed to various products obtained by processes of the '566 patent.

It is effectively undisputed that the present inventions filled a long sought yet unfilled need. The United States Army and the research director of a Garlock Inc. (Garlock) customer had been looking for and following up every remote lead to a waterproof/breathable material for many years.

It is undisputed that the present inventions enjoyed prompt and remarkable commercial success due to their merits and not to advertising or other extraneous causes.

It is undisputed that the inventions provide the most important synthetic material available for use in vascular surgery, hundreds of thousands of persons having received artificial arteries formed of the patented products since 1976, and that the patented products have unique properties useful in other medical procedures, in communications satellites, radar systems, and electrical applications.

It is undisputed that the major sources of PTFE, ICI and du Pont, greeted the patented products as "magical," "bewitching," "a remarkable new material," and one that "differs from other processed forms of Teflon."

It is undisputed that the patented products were met with skepticism and disbelief by at least one scientist who had worked with PTFE at du Pont for many years and who testified as an expert at trial.

It is undisputed that Garlock first produced an accused product in response to a customer's request for a substitute for the patented product, that Garlock advertised its accused product as a "new form" of PTFE and as "a versatile new material which provides new orders of performance for consumer, industrial, medical and electrical applications," and that the customer describes that accused product as "a new dimension in rainproof/breathable fabrics."

#### Proceedings

On Nov. 2, 1979, Gore sued Garlock for infringement of process claims 3 and 19 of the '566 patent, and sought injunctive relief, damages and attorney fees. Garlock counterclaimed on Dec. 18, 1979, for a declaratory judgment of patent invalidity, non-infringe-

ment, fraudulent solicitation, and entitlement to attorney fees. On Feb. 7, 1980, Gore filed a second suit for infringement of product claims 14, 18, 36, 43, 67 and 77 of the '390 patent. In light of a stipulation, the district court consolidated the two suits for trial.

Gore alleged infringement of certain claims by certain products:

'566 patent claims	'390 patent claims	Garlock Product
19	14,43	film
--	36,77	laminate
19	18	yarn
--	67	braided packing
3	--	tape

At trial, Garlock addressed only claims 1, 3, 17, and 19 of the '566 patent and claims 1, 9, 12, 14, 18, 35, 36, 43, 67 and 77 of the '390 patent. See Appendix to this opinion.

The district court, in a thorough memorandum accompanying its judgment, and in respect of the '566 patent: (1) found claim 1 anticipated under 35 U.S.C. §102(a) by Gore's use of its 401 machine and use by the Budd Company (Budd) of a Cropper machine; (2) declared all claims of the patent invalid under 102(b) because the invention had been in public use and on sale more than one year before Gore's patent application, as evidenced by Budd's use of the Cropper machine; (3) held claims 1, 3, 17 and 19 invalid for obviousness under 35 U.S.C. §103, on the basis of various reference pairings: (a) Japanese patent 13560/67 (Sumitomo) with U.S. patent 3,214,503 (Markwood); (b) U.S. patent 2,776,465 (Smith) with Markwood; or (c) Gore's '915 patent with Sumitomo; and (4) held all claims invalid as indefinite under 35 U.S.C. §112.<sup>1</sup>

<sup>1</sup> 35 U.S.C. §102(a) and (b) provide:

A person shall be entitled to a patent unless —  
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or \* \* \*

35 U.S.C. §103 provides:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject-matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

In its opinion respecting the '390 patent, the district court held: (1) claims 1, 9, 12, 14, 18, 35, 36, 43, 67 and 77 invalid §§102 and 103 in view of Sumitomo and Smith; and (2) all claims invalid as indefinite under §112.

The court found that Gore did not commit fraud before the Patent and Trademark Office (PTO), denied Garlock's request for attorney fees, and refrained from deciding the infringement issue.

### Issues

Did the district court err in: (1) its holding of invalidity under §§102(a), 102(b), 103 and 112; (2) its finding that Gore did not commit fraud on the PTO; or (3) denying attorney fees.

### Opinion

This hard fought and bitterly contested case involved over two years of discovery, five weeks of trial, the testimony of 35 witnesses (19 live, 16 by deposition), and over 300 exhibits. The district court issued an exhaustive 37-page memorandum opinion reflective of a careful, conscientious approach to the determination of the many issues presented at trial.

The record on appeal consists of 2000 pages. The parties' briefs total 199 pages. In those briefs, counsel repeatedly accuse each other of numerous and serious breaches of the duty of candor owed the court. Each cites instances in which the testimony, the findings, and the record are or are said to be quoted in part and out of context. As a result, the usefulness and reliability of the briefs as means of informing the court has been greatly diminished if not destroyed, and careful, time-consuming study of all exhibits and each page of the record has been required.

35 U.S.C. §112 provides:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. A claim may be written in independent or dependent form, and if in dependent form, it shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim.

Appellant cited 80 prior court opinions in its main brief. Appellee's brief totally ignores all but two of those citations, but adds 57 more. Appellant's reply brief cites 126 prior court opinions, 34 earlier cited, 67 newly cited, and 25 of those cited by appellee. Appellee's reply brief cites 17 prior court opinions, 4 earlier cited, 7 newly cited, and 6 of the 147 cited by appellant. Accordingly, 211 prior court opinions have been evaluated in relation to the proof found in the record.

In light of the entire record and the applicable law, we are convinced that Garlock failed to carry its burden of proving all claims of the present patents invalid.

### Standard of Review

[1,2] Where, as here, dispositive legal error occurred in interpretation and application of the patent statute, 35 U.S.C., the parties' arguments relating to the salutary injunction of Fed. Rule Civ. P. 52(a) cannot be controlling on all issues. Though findings that "rest on an erroneous view of the law may be set aside on that basis," *Pullman-Standard v. Swint*, 456 U.S. 273 (1982), it is unnecessary here to set aside any probative fact found by the district court or to engage in what would be an inappropriate reweighing of the facts.

Among the legal errors extant in the record, each of which is discussed below, are (1) the invention set forth in each claim was not in each instance considered as a whole; (2) 35 U.S.C. §102(b) was applied though criteria for its application were not present; (3) the references were not assessed in their entireties; (4) an inherency theory under §§102 and 103 was inappropriately applied; (5) that which only the inventor taught was attributed to the prior art; (6) individual steps in prior art processes dealing with materials distinct from those with which the present inventions dealt were erroneously equated to steps in the claimed processes; (7) objective evidence of nonobviousness was disregarded; and (8) the function and application of §112 were misconstrued.

Because it permeated so much of the district court's analysis, we note more fully its frequent restriction of its consideration to 10% per second rate of stretching, which it called the "thrust of the invention." That approach is repeated throughout Garlock's briefs, which refer repeatedly to the "thrust of the invention," to "the inventive concept," and to the claims "shorn of their extraneous limitations." That facile focusing on the "thrust," "concept," and "shorn" claims, resulted in treating the claims at many points as though they read differently from those actually allowed and in suit.

[3] It is true that Dr. Gore emphasized rapid stretching, for example, as well as the amount of stretch and other process limitations, during prosecution of the application for the '566 patent. Yet it is the claims that measure and define the invention. *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339, 128 USPQ 354 (1961); *Bowser, Inc. v. U.S.*, 388 F.2d 346, 349, 156 USPQ 406, 409 (Ct. Cl. 1967).

[4] Each claimed invention must be considered as a whole. 35 U.S.C. §103; *Schenck, A.G. v. Nortron Corp.*, 218 USPQ 698, 700 (Fed. Cir. 1983). In determining obviousness, there is "no legally recognizable or protected 'essential,' 'gist,' or 'heart' of the invention." *Aro*, 365 U.S. at 345. A court's restriction of a claimed multi-step process to one step constitutes error, whether done at the behest of a patentee relying on that restriction to establish infringement by one who employs only that one step in a process otherwise distinct, or at the behest of an accused infringer relying on that restriction to establish invalidity by showing that one step in a prior art process otherwise distinct.

(1) *Invalidity*

(a) *'566 Patent*

(i) *§102(a) and The 401 Machine*

It is undisputed that the district court held only claim 1 of the '566 patent to have been anticipated under §102(a) by operation of the 401 machine in the Gore shop before Dr. Gore's invention in late October 1969. It did so on the deposition testimony of two former Gore employees, documents, and drawings of the 401 machine.

In August 1969, Gore offered to sell to Export Tool Company (Export) tape "to be made" on the 401 machine. Tape made on the 401 machine was shipped to Export on October 24, 1969. The trial judge found the rolls on the 401 machine were, at least at some point in time before October 1969, spaced less than four feet apart and that the rate of stretch accomplished in operating that machine (admittedly operated in accord with the description of machine operation in the '915 patent) must have been greater than 10% per second. The district court credited testimony that Teflon 6-c, a highly crystalline form of Teflon, was used because it was the standard resin at the time, and that the tape was stretched at a temperature above 35°C. Thus it cannot be said that the record fails to support the district court's finding that the

limitations of claim 1 were met by Gore's operation of the 401 machine before Dr. Gore's asserted "late October 1969" date of invention. Though he was working with the operation of the 401 machine, Dr. Gore offered no proof that his invention date was before the date of shipment to Export.

[5] Gore, seeking a review here of the evidence, points to certain inadequacies as indicating a failure to meet the required clear and convincing standard under §102(a). At the time of trial, the district court, bound by precedent then applicable, applied a preponderance of the evidence test. Gore asserts, erroneously, that the clearly erroneous standard does not therefore apply on this appeal. Gore does not, however, point to any basis on which the district court's findings must be held to have been clearly erroneous under the clear and convincing standard. We are not at liberty, of course, to substitute our own for the district court's findings underlying its conclusion that claim 1 is invalid.

[6] Gore's operation of the 401 machine must thus be viewed as a consistent, reproducible use of Dr. Gore's invention as set forth in claim 1, and it is therefore irrelevant that those using the invention may not have appreciated the results. *General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242, 248, 67 USPQ 155, 157-58 (1945). Were that alone enough to prevent anticipation, it would be possible to obtain a patent for an old and unchanged process. *Ansonia Brass & Copper Co. v. Electric Supply Co.*, 144 U.S. 11, 18 (1892); see, *H.K. Regar & Sons, Inc. v. Scott & Williams, Inc.*, 63 F.2d 229, 231, 17 USPQ 81, 83 (2d Cir. 1933).

[7] The nonsecret use of a claimed process in the usual course of producing articles for commercial purposes is a public use. *Electric Storage Battery Co. v. Shimadzu*, 307 U.S. 5, 20, 41 USPQ 155, 161 (1939), and there was no evidence that any different process was used to produce the articles shipped to Export.

Thus it cannot be said that the district court erred in determining that the invention set forth in claim 1 of '566 patent was known or used by others under §102(a), as evidenced by Gore's operation of the 401 machine before Dr. Gore's asserted date of that invention.

In view of our affirmance of the judgment reached on claim 1 under 102(a), we need not discuss other asserted grounds of invalidity of claim 1. There was, however, no evidence whatever that the inventions set forth in other claims, of either the '566 or the '390 patent, were known or used by others as a result of Gore's operation of the 401 machine before late October 1969.

## (ii) §102(b) and the Cropper Machine

In 1966 John W. Cropper (Cropper) of New Zealand developed and constructed a machine for producing stretched and unstretched PTFE thread seal tape. In 1967, Cropper sent a letter to a company in Massachusetts, offering to sell his machine, describing its operation, and enclosing a photo. Nothing came of that letter. There is no evidence and no finding that the present inventions thereby became known or used in this country.

In 1968, Cropper sold his machine to Budd, which at some point thereafter used it to produce and sell PTFE thread seal tape. The sales agreement between Cropper and Budd provided:

**ARTICLE "E" - PROTECTION OF TRADE SECRETS Etc.**

1. **BUDD** agrees that while this agreement is in force it will not reproduce any copies of the said apparatus without the express written permission of Cropper nor will it divulge to any person or persons other than its own employees or employees of its affiliated corporations any of the said known-how or any details whatsoever relating to the apparatus.

2. **BUDD** agrees to take all proper steps to ensure that its employees observe the terms of Article "E" 1 and further agrees that whenever it is proper to do so it will take legal action in a Court of competent jurisdiction to enforce any one or more of the legal or equitable remedies available to a trade secret plaintiff.

Budd told its employees the Cropper machine was confidential and required them to sign confidentiality agreements. Budd otherwise treated the Cropper machine like its other manufacturing equipment.

A former Budd employee said Budd made no effort to keep the secret. That Budd did not keep the machine hidden from employees legally bound to keep their knowledge confidential does not evidence a failure to maintain the secret. Similarly, that du Pont employees were shown the machine to see if they could help increase its speed does not itself establish a breach of the secrecy agreement. There is no evidence of when that viewing occurred. There is no evidence that a viewer of the machine could thereby learn anything of which process, among all possible processes, the machine is being used to practice. As Cropper testified, looking at the machine in operation does not reveal whether it is stretching, and if so, at what speed. Nor does looking disclose whether the crystallinity and temperature elements of the invention set

forth in the claims are involved. There is no evidence that Budd's secret use of the Cropper machine made knowledge of the claimed process accessible to the public.

The district court held all claims of the '566 patent invalid under 102(b), *supra*, note 3, because "the invention" was "in public use [and] on sale" by Budd more than one year before Gore's application for patent. Beyond a failure to consider each of the claims independently, 35 U.S.C. §282; *Altoona Public Theatres, Inc. v. American Tri-Ergon Corp.*, 294 U.S. 477, 487, 24 USPQ 308 (1935), and a failure of proof that the claimed inventions as a whole were practiced by Budd before the critical May 21, 1969 date, it was error to hold that Budd's activity with the Cropper machine, as above indicated, was a "public" use of the processes claimed in the '566 patent, that activity having been secret, not public.

Assuming, *arguendo*, that Budd sold tape produced on the Cropper machine before October 1969, and that that tape was made by a process set forth in a claim of the '566 patent, the issue under §102(b) is whether that sale would defeat Dr. Gore's right to a patent on the process inventions set forth in the claims.

[8] If Budd offered and sold anything, it was only tape, not whatever process was used in producing it. Neither party contends, and there was no evidence, that the public could learn the claimed process by examining the tape. If Budd and Cropper commercialized the tape, that could result in a forfeiture of a patent granted them for their process on an application filed by them more than a year later. *D.L. Auld Co. v. Chroma Graphics Corp.*, No. 83-585, slip op. at 5-6 (Fed. Cir. Aug. 15, 1983); See *Metalizing Engineering Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 68 USPQ 54 (2d Cir. 1946). There is no reason or statutory basis, however, on which Budd's and Cropper's secret commercialization of a process, if established, could be held a bar to the grant of a patent to Gore on that process.

[9,10] Early public disclosure is a linchpin of the patent system. As between a prior inventor who benefits from a process by selling its product but suppresses, conceals, or otherwise keeps the process from the public, and a later inventor who promptly files a patent application from which the public will gain a disclosure of the process, the law favors the latter. See *Horwath v. Lee*, 564 F.2d 948, 195 USPQ 701 (CCPA 1977). The district court therefore erred as a matter of law in applying the statute and in its determination that Budd's secret use of the Cropper machine and sale of tape rendered all process

claims of the '566 patent invalid under §102(b).

(iii) §103

In considering claims 1, 3, 17, and 19 of the '566 patent, the district court recognized that analysis of the obviousness issue under §103 requires determination of the scope and content of the prior art, the differences between the prior art and the claims at issue, and the level of ordinary skill in the pertinent art. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

[11,12,13] In its consideration of the prior art, however, the district court erred in not taking into account the import of the markedly different behavior of PTFE from that of conventional thermoplastic polymers clearly established and undisputed on the record, and in thus disregarding the unpredictability and unique nature of the unsintered PTFE to which the claimed inventions relate. In *re* Whiton, 420 F.2d 1082, 164 USPQ 455 (CCPA 1970); in considering claims in less than their entireties, *Schenck, supra*; and in considering the references in less than their entireties, i.e., in disregarding disclosures in the references that diverge from and teach away from the invention at hand. In *re* Kuderma, 426 F.2d 385, 165 USPQ 575 (CCPA 1970).

Invalidity of claim 1 under §102(a) having been determined, it is unnecessary to discuss in detail the applicability of §103 to that claim. If claim 1 had not been held anticipated under §102(a) in light of operation of the 401 machine, it is clear from the discussion here that claim 1 could not properly have been held invalid under §103.

Claim 3 depends from and thus incorporates claim 1 but specifies a rate of stretch of 100% per second. Claim 17 also depends from claim 1 and specifies an amount of stretch of about twice the original length. Claim 19 depends from claim 17 but specifies an amount of stretch of about five times the original length.

U.S. patent 2,983,961 to Titterton, Volume 13 of the *Encyclopedia of Polymer Science and Technology* (1970), the Sumitomo patent, and witnesses for both parties, establish that teachings related to conventional thermoplastic polymers are inapplicable to PTFE.

Articles by Dogliotti and Yelland, *Effect of Strain Rate on the Viscoelastic Properties of High Polymeric Fibrous Materials*, 4 *High Speed Testing* 211 (1964) and Robinson and Graham, *Methods of Characterization of Polymeric Materials by High Speed Testing Techniques*, 5 *High Speed Testing* 261

(1965), teach that conventional plastics and sintered PTFE can be stretched further if stretched slowly. Dr. Gore demonstrated at trial and at oral argument before us that an attempt to stretch highly crystalline, unsintered PTFE slowly results in breakage, and that rapid stretching produces a greatly lengthened rod of soft, flexible material.

The '566 patent contains an example of stretching an article to 16 times its length. Smith and the '915 patent teach that PTFE could not be stretched beyond four times its length without heating it to above its crystalline melt temperature, a step avoided by Dr. Gore and as set forth in the claims.

Sumitomo teaches that there is a length limit to stretching unsintered PTFE, and does not suggest what that limit might be. Markwood, U.S. patent 3,208,100 to Nash (Nash), and U.S. patent 2,823,421 to Scarlett (Scarlett) teach that *non-PTFE* thermoplastics can be stretched rapidly and to extended lengths, and also teach reduction, elimination, or avoidance of crystallinity before stretching.

The disclosure in the Smith and '915 patents that a PTFE article may be stretched to as much as four times its length encompasses the step of stretching to twice its length set forth in claim 17 and establishes that such step would have been obvious.

[14] Claims 3 and 19 must be considered individually and separately. 35 U.S.C. §282. Nowhere, in any of the references, is it taught or suggested that highly crystalline, unsintered PTFE could be stretched at a rate of about 100% per second as required by asserted claim 3. Nor is it anywhere suggested that by rapid stretching a PTFE article be stretched to more than five times its original length as required by asserted claim 19. On the contrary, the art as a whole teaches the other way.

[15] In concluding that obviousness was established by the teachings in various pairs of references, the district court lost sight of the principle that there must have been something present in those teachings to suggest to one skilled in the art that the claimed invention before the court would have been obvious. In *re* Bergel, 292 F.2d 955, 956-57, 130 USPQ 206, 208 (CCPA 1961); In *re* Sponnoble, 405 F.2d 578, 585, 160 USPQ 237, 244 (CCPA 1969).

The court's pairing of Sumitomo and Markwood disregarded, as above indicated, the undisputed evidence that the unsintered PTFE of Sumitomo does not respond to the conventional plastics processing of Markwood and the art recognition of that fact. Whiton, *supra*, 420 F.2d at 1085, 164 USPQ at 457.

In evaluating claim 19, for example, the pairing disregarded Sumitomo's limited

length of stretch teaching. In evaluating claim 3, the court recognized that Sumitomo made no mention of rate of stretch. Looking to Markwood to supply that teaching disregarded not only the conventional plastics-unsintered PTFE distinction but also the clear divergence of Markwood's teaching that crystallinity must be reduced or avoided from the presence of "highly crystalline" in all claims of the '566 patent.

Similarly, and for many of the same reasons, the pairing of Markwood's and Smith's teachings was an inappropriate basis for concluding that the processes set forth in claims 3 and 19 would have been obvious. As above indicated, Markwood's rapid stretching of conventional plastic polypropylene, with reduced crystallinity would not suggest rapid stretching of highly crystalline PTFE, in light of teachings in the art that PTFE should be stretched slowly. The Smith patent is owned by du Pont, where Dr. Gore's process invention was considered to have produced a "remarkable new material." That circumstance is not surprising, for Smith, though dealing with PTFE, says not a word about any rate of stretch.

Lastly, the pairing of Sumitomo and the '915 patent suffers from the same shortcomings. The pairing resulted from a hypothetical set forth in Garlock's post trial brief, and was based on no testimony or other evidence in the record. In respect to claim 3, neither reference mentions rate of stretch or suggests its importance. In respect of claim 19 both references point away from the claimed invention in their limited length-of-stretch teachings. The '915 patent states: "the 65 percent expanded material could be expanded a second time for an additional 65 percent expansion or a total length increase ratio of 1:2.72 [less than three times the original length]. However, great care was necessary to obtain a uniformly expanded material at these very great expansion ratios." Thus the '915 patent suggests that the amount of stretch of 500% set forth in claim 19 (more than five times the original length) is not possible.

As indicated, Sumitomo and Smith are totally silent respecting the rate of stretch, and there is simply no teaching in the art that would suggest to one of ordinary skill that Markwood's fast stretching of other thermoplastics could or should be employed in the process of treating PTFE taught by either Sumitomo or Smith. Indeed, Smith not only says nothing about rate of stretch, its preferred teaching is away from other elements of the inventions set forth in claims 3 and 19. Smith discloses that stretching should be done after the PTFE is heated above its crystalline

melting point and with decreased crystallinity. Smith teaches:

Below about 300°C it is *not possible* to draw more than about 4X [times] and while such draw ratios can be attained around 300°C and below the polymer's crystalline melting point with resultant orientation and improved properties it is preferred to use temperatures at or above the polymer's crystalline melting point. (Emphasis added).

Nash teaches that the film should be plasticized, i.e., made more viscous, before stretching. Contrary to that teaching, Dr. Gore did not reduce crystallinity before increasing the rate of stretch, but maintained the unsintered PTFE "highly crystalline" while stretching at a 100% per second rate and to more than five times, as set forth respectively in claims 3 and 19.

[16] On the entire record and in view of all the references, each in its entirety, it is clear that a person of ordinary skill confronted with a PTFE tape breakage problem would have either slowed the rate of stretching or increased the temperature to decrease the crystallinity. Dr. Gore did neither. He proceeded contrary to the accepted wisdom of the prior art by dramatically increasing the rate and length of stretch and retaining crystallinity. That fact is strong evidence of nonobviousness. *United States v. Adams*, 383 U.S. 39 (1966).

Having learned the details of Dr. Gore's invention, the district court found it within the skill of the art to stretch other material rapidly (Markwood); to stretch PTFE to increase porosity (Sumitomo); and to stretch at high temperatures (Smith). The result is that the claims were used as a frame, and individual, naked parts of separate prior art references were employed as a mosaic to recreate a facsimile of the claimed invention. At no point did the district court, nor does Garlock, explain why that mosaic would have been obvious to one skilled in the art in 1969, or what there was in the prior art that would have caused those skilled in the art to disregard the teachings there found against making just such a mosaic. On the contrary, the references and the uncontested testimony, as above indicated, established that PTFE is *sui generis*. It is not surprising, therefore, that, unlike the situation in *Stratoflex, Inc. v. Aeroquip Corp.*, 218 USPQ 871 (Fed. Cir. 1983), there was no testimony and no finding that one skilled in the art would transfer conventional thermoplastic processes to those for unsintered PTFE, or would have been able to predict what would happen if they did.

[17] To imbue one of ordinary skill in the art with knowledge of the invention in suit,

when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

[18] It is difficult but necessary that the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art. Had that been here done the inventions set forth in the claims 3 and 19 of the '566 patent could only have been held non-obvious to those skilled in the art at the time those claimed inventions were made.

[19] Error in visualizing the burden of proof on obviousness may have contributed to the court's application here of the prior art. Adopting the phrase from earlier precedents, the court said "the presumption [of validity] is weakened greatly where the Patent Office has failed to consider pertinent prior art." That is not the law of established precedent in this court. *SSIH Equipment S.A. v. ITC*, 218 USPQ 678, 687 (Fed. Cir. 1983); *Solder Removal Co. v. ITC*, 582 F.2d 628, 633, 199 USPQ 129, 133, n. 9 (CCPA 1978). The presumption has no separate evidentiary value. It cautions the decisionmaker against a rush to conclude invalidity. Submission of additional art that is merely "pertinent" does not dispel that caution. It is difficult to imagine a patent law suit in which an accused infringer is unable to add some new "pertinent" art. The inescapable burden of persuasion on one who would prove invalidity, however, remains throughout the trial. 35 U.S.C. §282.

[20] The burden of proving invalidity may of course be facilitated by prior art that is *more pertinent* than that considered by the PTO. That did not happen here. In the present case, Sumitomo, Smith, and the '915 patent were among references considered by the PTO. Other references referred to as not considered were merely cumulative, disclosing nothing not disclosed in references that were considered by the PTO. The Canadian counterpart of Nash was considered by the PTO. The relevant disclosures of Markwood appear in Sandiford patent 3,544,671 and Parathion patent 3,637,906, both considered by the PTO. The Russian Author's Certificate 240,997, assuming its status as prior art and whatever the material with which it dealt, contributed nothing beyond the teachings of the '915 patent considered by the PTO.

[21] As discussed more fully below, the district court erred in specifically declining to

consider the objective evidence of nonobviousness. In *re Sernaker*, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983). That evidence can often serve as insurance against the insidious attraction of the siren hindsight when confronted with a difficult task of evaluating the prior art. Though the prior art evidence here pointed more in the direction of nonobviousness than obviousness, the objective evidence may tend, as it did in *Sernaker*, supra, to reassure the decisionmaker.

In sum, the district court erred as a matter of law on this record in concluding that Garlock had met its burden of proving that the inventions of claims 3 and 19 of the '566 patent would have been obvious.

(b) '390 patent

(i) §102

The district court found product claims 1, 9, 12, 14, 18 and 43 inherently anticipated because it found that the microstructure of nodes interconnected by fibrils is an inherent characteristic of paste-extruded PTFE products resulting from the process disclosed in Smith. The court found the first four of those claims and claim 43, plus claims 35, 36, 67 and 77 inherently anticipated because high strength PTFE products are inherent in the examples of Sumitomo.

The teachings of Smith include neither a disclosure nor a suggestion of "porous" products having a "microstructure characterized by nodes interconnected by fibrils" as required by the claims found to have been anticipated by Smith.

The teachings of Sumitomo do not include a disclosure of products having "a matrix tensile strength \* \* \* above about 7,300 psi" as required by the claims found to have been anticipated by Sumitomo.

[22] Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *Soundsciber Corp. v. U.S.*, 360 F.2d 954, 960, 148 USPQ 298, 301, adopted, 149 USPQ 640 (Ct. Cl. 1966). Neither Smith nor Sumitomo disclose an invention set forth in any claim of the '390 patent.

The incongruity in findings that the different processes of Smith and Sumitomo each inherently produced identical products is striking.

Garlock attempted with expert testimony to overcome the prior art shortcomings as proof of anticipation. Gore rebutted with its own expert testimony. It is unnecessary, however, to resolve apparent conflicts in the divergent testimony, much if not all of which took

the form of pure unsupported assertion. No inter partes tests in which the Smith and Sumitomo processes were conducted are of record. No products of those processes were placed in evidence, and there was, of course, no analysis of any such evidentiary products.

Nor is it necessary to evaluate the inappropriate disparagement in Garlock's brief of Dr. Sperati as a "friend" of Gore.

[23] Given the unique nature of unsintered PTFE, we are not persuaded that the "effect" of the processes disclosed in Smith and Sumitomo, an "effect" undisclosed in those patents, would be always to inherently produce or be seen always to produce products meeting all of the claim limitations. Anticipation of inventions set forth in product claims cannot be predicated on mere conjecture respecting the characteristics of products that might result from the practice of processes disclosed in references. In *re Felton*, 484 F.2d 495, 500, 179 USPQ 295, 298 (CCPA 1973). It is clear that the teachings of neither Smith nor Sumitomo place the products claimed in the '390 patent in possession of the public.

The teachings of Smith and Sumitomo are so unacceptably vague concerning characteristics of products produced by their respective processes as not to support an anticipation rejection. That fact is confirmed by the PTO's having fully considered those references and by its having issued the '390 patent over them.

[24] Garlock's assertion that it employs a process covered by the Smith patent, if true, is irrelevant. The '390 patent was allowed over Smith as a reference. Assuming Smith is a dominating patent, the rule of law is clear that an accused infringer's employment of the process of a dominating patent does not render that employment an anticipation of an invention described and claimed in an improvement patent. As indicated, there is no present record basis for finding that the Smith process in itself necessarily and inherently results in the products, each considered in its entirety, in the claims of the '390 patent. The testimony of Garlock's expert about ex parte tests, the records of which he destroyed before trial, cannot serve as such a basis. The effusive praise of Dr. Gore's claimed products by the owner of the Smith patented process would appear, on the contrary, to confirm the action of the PTO in issuing the '390 patent.

Garlock has not met its burden of showing that claims 1, 9, 12, 14, 18, and 43 are anticipated by Smith or that claims 1, 9, 12, 14, 35, 36, 43, 67, and 77 are anticipated by Sumitomo.

(ii) §103

[25] The scope and content of the prior art and level of ordinary skill, discussed above in relation to the '566 patent, would be the same for the '390 patent. The district court did not, however, nor does Garlock, apply the Graham criteria, *supra*, to the '390 claims, apparently assuming that the claimed products, having been found inherent in the processes of Sumitomo and Smith, would have been obvious in view of those references. If so, that was error. Inherency and obviousness are distinct concepts. In *re Spormann*, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966).

In discussing inherency the district court did recognize differences between Smith's disclosure and the inventions set forth in claims 1, 9, 12, 14, 18, and 43, i.e., the absence from Smith of a description of the products of Smith's process as porous and the absence from Smith of a disclosure that those products have a microstructure characterized by nodes interconnected by fibrils.

Similarly, a difference between Sumitomo's disclosure and the inventions set forth in claims 1, 9, 12, 14, 35, 36, 43, 67, and 77 was recognized in the absence from Sumitomo of a quantification of the matrix tensile strengths of the products of Sumitomo's process. The district court also discussed differences between the dependent claims and the prior art. Because we conclude that the independent claims of the '390 patent are patentable over the art of record, we need not discuss the dependent claims.

[26] Having determined that the invention would have been obvious in view of the process of either Smith or Sumitomo, the district court did not discuss the strong showing of objective evidence of nonobviousness here present, saying with respect to one part of such evidence, "no amount of commercial success can save it." That approach was error. All evidence bearing on the issue of obviousness, as with any other issue raised in the conduct of the judicial process, must be considered and evaluated *before* the required legal conclusion is reached. *Stratoflex*, *supra*, 218 USPQ at 879.

[27] The objective evidence of nonobviousness, i.e., the "indicia" of Graham, *supra*, may in a given case be entitled to more weight or less, depending on its nature and its relationship to the merits of the invention. It may be the most pertinent, probative, and revealing evidence available to aid in reaching a conclusion on the obvious/nonobvious issue. It should when present always be considered as an integral part of the analysis.

Gore's fabric laminates, for example, as set forth in claims 36 and 77, satisfied a long-felt

need for a material having the contradictory properties of being simultaneously breathable (allowing water vapor or perspiration to pass) and waterproof. The record establishes that such a material had long been sought by makers of rainwear and outerwear, and by the U.S. Army as well. That Gore's fabric laminates filled that need is attested by the rise in their annual dollar sales from zero to seven million in the first five years of their availability.

Gore's PTFE tubes for replacement of human arteries and veins, also satisfied a long-felt need. The uncontradicted evidence establishes that Gore's PTFE tubes hold blood without leaking, need not be pre-clotted with the patient's blood, are chemically inert, and, being breathable, are less likely to cause an air embolism. The value and uniqueness of those four properties make Gore's PTFE tubes, as described in unchallenged testimony, "the most important synthetic material presently existing" in vascular surgery, and, along with other evidence in the record, reflect the intended working of the patent system.

As discussed above, current annual sales of over sixty million dollars are attributable to the merits of the products claimed in the '390 patent. Considering the long-felt need for those products and the obvious commercial advantage to be gained by meeting that need, it is reasonable to conclude that the claimed products of the '390 patent would not have been obvious to persons of ordinary skill in the art at the time the claimed inventions were made.

[28] As above indicated, the praise which greeted the products claimed in the '390 patent from PTFE suppliers, including the owner of the Smith patent, is further objective evidence of nonobviousness.

[29] Garlock's appeal argument that the '390 claims are invalid because the recited minimum matrix tensile strengths are not "critical" is without merit. A claim to a new product is not legally required to include critical limitations. In *re Miller*, 441 F.2d 689, 696, 169 USPQ 597, 602 (CCPA 1971). The '390 claims are not drawn to optimization of ingredients or ranges within broad prior art teachings, but to new porous PTFE products of particular characteristics.

In sum, and in view of the difficulty of working with unsintered PTFE and its unpredictable response to various processing techniques, the vagueness of Smith and Sumitomo concerning the products produced by those processes, the filling of at least two long-felt needs and the commercial success described above, we conclude that the inventions set forth in claims 1, 9, 12, 14, 18, 35, 36, 43, 67, and 77 of the '390 patent would

not have been obvious to those skilled in the art at the time those inventions were made.

(c) §112 and the '566 and '390 patents

The patents in suit resulted from a single application and thus have substantially identical specifications. The holding of invalidity on the basis of §112 is common to both patents.

The district court found that the patents did not disclose sufficient information to enable a person of ordinary skill in the art to make and use the invention, as required by §112, first paragraph, and that certain claim language was indefinite, presumably in light of §112, second paragraph, because: (1) there was no definition in the specification of "stretch rate," different formulae for computing stretch rate having been developed and presented at trial; (2) there was no way taught in the specification to calculate the minimum rate of stretch above 35°C; (3) the phrase "matrix tensile strength" is indefinite; and (4) the phrase "specific gravity of the solid polymer" is indefinite.

[30] The findings rest on a misinterpretation of §112, its function and purpose. The district court considered whether certain terms would have been enabling to the public and looked to formula developments and publications occurring well after Dr. Gore's filing date in reaching its conclusions under §112. Patents, however, are written to enable those skilled in the art to practice the invention, not the public. In *re Storrs*, 245 F.2d 474, 478, 114 USPQ 293, 296-97 (CCPA 1957), and §112 speaks as of the application filing date, not as of the time of trial. In *re Mott*, 539 F.2d 1291, 1296, 190 USPQ 536, 541 (CCPA 1976). There was no evidence and no finding that those skilled in the art would have found the specification non-enabling or the claim language indefinite on May 21, 1970, when the application which resulted in issuance of Dr. Gore's patents was filed. Indeed, the expert quoted by the district court and whose testimony was primarily relied upon respecting formulae, was still in school at that time.

There is uncontradicted evidence in the record that at the time the application was filed "stretch rate" meant to those skilled in the art the percent of stretch divided by the time of stretching, and that the latter was measurable, for example, with a stopwatch. Concern for the absence from the specification of a formula for calculating stretch rate is therefore misplaced, and the post-filing date development of varying formulae, including Dr. Gore's later addition of a formula in his corresponding Japanese patent, is irrelevant.

[31] Section 112 requires that the inventor set forth the best mode of practicing the invention known to him at the time the application was filed. Calculating stretch rate at that time was accomplished by actually measuring the time required to stretch the PTFE material. That was the only mode then used by the inventor, and it worked. The record establishes that calculation by that mode would have been employed by those of ordinary skill in the art at the time the application was filed. As indicated, Dr. Gore's disclosure must be examined for §112 compliance in light of knowledge extant in the art on his application filing date.

[32] The district court, though discussing enablement, spoke also of indefiniteness of "stretch rate," a matter having to do with §112, second paragraph, and relevant in assessment of infringement. The use of "stretching \* \* \* at a rate exceeding about 10% per second" in the claims is not indefinite. Infringement is clearly assessable through use of a stopwatch. No witness said that could not be done. As above indicated, subsequently developed and therefore irrelevant formulae cannot be used to render non-enabling or indefinite that which was enabling and definite at the time the application was filed.

[33] Similarly, absence from the specification of a method for calculating the minimum rate of stretch above 35°C does not render the specification non-enabling. The specification discloses that "[t]he lower limit of expansion rates interact with temperature in a roughly logarithmic fashion, being much higher at higher temperatures." Calculation of minimum stretch rate above 35°C is nowhere in the claims, and it is the *claimed* invention for which enablement is required. The claims require stretching at a rate greater than 10% per second at temperatures between 35°C and the crystalline melt point of unsintered PTFE. That the minimum rate of stretch may increase with temperature does not render non-enabling Dr. Gore's specification, particularly in the absence of convincing evidence that those skilled in the art would have found it non-enabling at the time the application was filed.

[34] The district court invalidated both patents for indefiniteness because of its view that some "trial and error" would be needed to determine the "lower limits" of stretch rate above 10% per second at various temperatures above 35°C. That was error. Assuming some experimentation were needed, a patent is not invalid because of a need for experimentation. *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270-71 (1916). A patent is invalid only when those skilled in the art are required to

engage in *undue* experimentation to practice the invention. *In re Angstadt*, 537 F.2d 498, 503-04, 190 USPQ 214, 218 (CCPA 1976). There was no evidence and the court made no finding that undue experimentation was required.

[35] Moreover, the finding here rested on confusion of the role of the specification with that of the claims. The court found that the specification's failure to state the lower limit of stretch rate (albeit above 10% per second) at each degree of temperature above 35°C (a requirement for at least hundreds of entries in the specification) did not "distinguish processes performed above the 'lower limit' from those performed below the 'lower limit'." The claims of the '390 patent say nothing of processes and lower limits. Distinguishing what infringes from what doesn't is the role of the claims, not of the specification. It is clear that the specification is enabling. *In re Storrs*, *supra*, and that the claims of both patents are precise within the requirements of the law. *In re Moore*, 439 F.2d 1232, 169 USPQ 236 (CCPA 1971).

[36] The finding that "matrix tensile strength" is indefinite, like the other findings under §112, appears to rest on a confusion concerning the roles of the claims and the specification. While finding "matrix tensile strength" in the claims indefinite, the district court at the same time recognized that the specification itself disclosed how to compute matrix tensile strength, in stating "to compute matrix tensile strength of a porous specimen, one divides the maximum force required to break the sample by the cross sectional area of the porous sample, and then multiplies this quantity by the ratio of the specific gravity of the solid polymer divided by the specific gravity of the porous specimen." Further, the specification provided the actual matrix tensile strength in several examples. It is well settled that a patent applicant may be his own lexicographer. In light of the disclosure of its calculation in the specification, we cannot agree that "matrix tensile strength" is either indefinite or non-enabling.

Nor does absence from the specification of a definition for "specific gravity of the solid polymer," a part of the computation of matrix tensile strength, render that computation indefinite. It is undisputed that in the many examples in the application the specific gravity values used for unsintered and sintered PTFE were 2.3 and 2.2, respectively. There was no testimony that those values were not known to persons of ordinary skill in the art or could not be calculated or measured. There is simply no support for the conclusion that "specific gravity of the solid polymer" is indefinite or that absence of its definition ren-

ders the specification non-enabling. See *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

We conclude that Garlock has failed to prove that at the time the application was filed, the specification was not enabling or that the claims were indefinite within the meaning of §112.

### (2) Fraud

[37] Fraud must be shown by clear and convincing evidence. *Norton v. Curtiss*, 433 F.2d 779, 797, 167 USPQ 532, 546-47 (CCPA 1970).

The state of mind of the one making the representations is probably the most important of the elements to be considered in determining the existence of "fraud." \* \* \* Good faith and subjective intent, while they are to be considered, should not necessarily be made controlling. Under ordinary circumstances, the fact of misrepresentation coupled with proof that the party making it had knowledge of its falsity is enough to warrant drawing the inference that there was a fraudulent intent. Where public policy demands a complete and accurate disclosure it may suffice to show nothing more than that the misrepresentations were made in an atmosphere of gross negligence as to their truth. [emphasis in original].

*Norton*, 433 F.2d at 795-96; 167 USPQ at 545; see, *Miller*, *Fraud on the PTO*, 58 JPOS 271 (1976).

Garlock alleges fraud in Gore's representations that stretching PTFE tape at a rate greater than 10% per second was novel and that it produces a physical phenomenon. The district court found the evidence insufficient to establish that Gore had a specific intent to defraud the PTO. No basis exists for our overturning that finding. Accordingly, we agree with the district court that Garlock has failed to sustain its heavy burden of proving, by clear and convincing evidence, sufficient facts from which fraudulent intent can be inferred.

Garlock points to a September 4, 1975, Gore affidavit filed in the PTO that stated:

2. Prior to my invention disclosed in the captioned patent application, during production of expanded PTFE products by W. L. Gore & Associates, Inc., the rate of stretching was neither measured nor controlled and to my knowledge did not involve stretching of unsintered PTFE at a rate exceeding about 10% per second. (emphasis in original).

No finding of the district court and no evidence of record establishes that that state-

ment was made in reckless disregard of facts from which an intent to defraud may be inferred.

The district court's finding in 1982 that the 401 machine inherently stretched tape at some time in 1969 at a rate more than 10% per second, does not establish that Dr. Gore was aware of that fact in 1975, nor does it make untrue his statement that to his knowledge that had not been the rate of stretch employed. Nor does the district court's finding conflict with Dr. Gore's statement that the rate of stretching was neither measured nor controlled in the Gore shop before his invention of the claimed process as a whole.

Nor does the evidence of isolated statements support Garlock's contention that Dr. Gore attempted to convince the PTO that a physical phenomenon always existed in which stretching at a rate greater than 10% per second always produced a matrix tensile strength greater than 7300 psi. On the contrary, Dr. Gore set forth in his specification examples indicating that some samples broke, ruptured, or disintegrated.

### (3) Attorney's Fees

The district court did not abuse its discretion in denying Garlock its request for attorney fees.

### Infringement

[38] Where, as here, an appellate court reverses a holding of invalidity, and remand is ordered for trial of the factual issue of infringement, an inefficient use of judicial resources results if the second judgment is appealed. The better practice would therefore be for the district court to decide both the validity and infringement issues when both are contested at the trial, enabling the conduct of a single appeal and disposition of the entire case in a single appellate opinion.

Resolution of the infringement issue at trial may also overlap with resolution of the validity issue, where, for example, the claimed invention was or was not copied by the validity challenger, or the challenger substituted the claimed invention for freely available prior art processes or products, *Eibel*, supra, 261 U.S. at 56, or an assertion of nonenablement may conflict with the ease with which the accused infringer may be shown to have practiced the invention as taught in the patent. *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 61 (1923).

[39] The district court having declined to decide the infringement issue, Gore suggests that the record here is sufficient to warrant

our deciding it now. With reluctance in view of the length and bitter nature of the present litigation, we decline the suggestion. In so doing, we imply nothing of our view on the issue. Nor do we intend any implication that the district court could not itself determine the infringement issue on the present record. Infringement of particular claims of two patents was asserted. None of those claims has been finally held invalid. Assuming their continued assertion, infringement must be decided with respect to each asserted claim as a separate entity. *Altoona, supra*, 294 U.S. at 487. Those factual determinations should be made in the first instance by the district court.

#### Decision

The holdings of invalidity of claim 1 of the '566 patent under §102(a) and of claim 17 of the '566 patent under §103, the determination that Gore did not commit fraud on the PTO, and the denial of attorney fees, are affirmed; the holdings that all claims of the '566 patent are invalid under §102(b), that claims 3 and 19 of the '566 patent are invalid under §103, and that all claims of the '566 patent are invalid under §112, are reversed. The holdings that claims 1, 9, 12, 14, 18, 35, 36, 43, 67, and 77 of the '390 patent are invalid under §§102 and 103, and that all claims of the '390 patent are invalid under §112, are reversed. The case is remanded for determination of the infringement issue.

*Affirmed in part, reversed in part, and remanded.*

#### Appendix

Claims of the '566 patent discussed at trial:

1. A process for the production of a porous article of manufacture of a polymer of tetrafluoroethylene which process comprises expanding a shaped article consisting essentially of highly crystalline poly (tetrafluoroethylene) made by a paste-forming extrusion technique, after removal of lubricant, by stretching said unsintered shaped article at a rate exceeding about 10% per second and maintaining said shaped article at a temperature between about 35°C. and the crystalline melt point of said tetrafluoroethylene polymer during said stretching.

3. The process of claim 1 in which the rate of stretch is about 100% per second.

17. The process of claim 1 in which the shaped article is expanded such that its final length in the direction of expansion is greater than about twice the original length.

19. The process of claim 17 in which said final length is greater than about five times the original length.

Claims of the '390 patent discussed at trial:

1. A porous material consisting essentially of highly crystalline polytetrafluoroethylene polymer, which material has a microstructure characterized by nodes interconnected by fibrils and has a matrix tensile strength in at least one direction above about 73,000 psi.

9. A porous material consisting essentially of polytetrafluoroethylene polymer, which material has a microstructure characterized by nodes interconnected by fibrils and has a matrix tensile strength in at least one direction above 9290 psi, which material has been heated to a temperature above the crystalline melt point of said polymer and has a crystallinity below about 95%.

12. A porous material in accordance with claim 9 which is in the form of a shaped article.

14. A product in accordance with claim 12 which is in the form of a film.

18. A product in accordance with claim 12 which is in the form of continuous filaments.

35. A laminated structure comprising (a) a first shaped article formed of a porous material made of a tetrafluoroethylene polymer, which material has a microstructure characterized by nodes interconnected by fibrils and has a matrix tensile strength in at least one direction above about 7,300 psi, and (b) a second shaped article bonded to said first shaped article.

36. The structure of claim 35 in which said first shaped article is formed of a porous material which has a matrix tensile strength in at least one direction of at least 9290 psi, and has a crystallinity below about 95%.

43. A porous material made of a tetrafluoroethylene polymer, which material has a microstructure characterized by nodes interconnected by fibrils, which material (a) has a matrix tensile strength in at least one direction above about 9290 psi, (b) has been heated to a temperature above 327°C. and has a crystallinity below about 95%, and (c) has a dielectric constant of 1.2-1.8.

67. An impregnated structure comprising

(a) a shaped article formed of a porous material made of a tetrafluoroethylene polymer which material has a microstructure characterized by nodes interconnected by fibrils and a matrix tensile strength in at least one direction above about 9290 psi, and

(b) a polymer impregnated within the pores of the said shaped article.

77. The structure of claim 35 in which the first shaped article is a sheet having pores that will pass a gas but will not pass liquid water.

Davis, Circuit Judge, concurring in the result in part and dissenting in part.

I concur in the result on (1) the validity of the '390 patent under §§ 102-103; (2) the validity of the '390 patent under §112; (3) the invalidity of claims 1 and 17 of the '566 patent; (4) lack of fraud on the Patent and Trademark Office; and (5) denial of attorneys' fees. I disagree and dissent as to the validity of claims 3 and 19 of the '566 patent.

1. The process invention embodied in claim 1 of the '566 patent was known, through use of the 401 machine in the Gore shop, well before the "invention date" (claimed by Robert Gore, the inventor) of October 1969.<sup>1</sup> As such, the claimed invention was invalid on at least three grounds: (i) it was anticipated and therefore would have been obvious (under 35 U.S.C. §103) at the time of the claimed invention date; (ii) the invention was "in public use" by the Gore shop (under 35 U.S.C. §102(b)) more than one year prior to the patent application (i.e., prior to May 21, 1969); and (iii) the invention (made by Robert Gore) was known to and used "by others in this country" (35 U.S.C. §102(a)) before the claimed invention date of October 1969, i.e. the invention was used by Wilbert Gore and others in the Gore shop before the October date.<sup>2</sup>

The critically important aspect of the invention of the '566 patent is the stretching of PTFE at a rate above 10% per second.<sup>3</sup> Robert Gore testified that he conceived this invention no earlier than October 1969 (and we have the right to take him at his word),<sup>4</sup> but the facts found by the District Court plainly show that the Gore shop was in fact practicing that invention considerably earlier.

<sup>1</sup> The 401 machine was used under the prior '915 patent (issued to Wilbert Gore) which contains no reference to the significance of the rate of stretch.

<sup>2</sup> Aside from the bases I discuss, I do not reach the other grounds asserted for invalidity of the '566 patent.

<sup>3</sup> Before the PTO Robert Gore concededly referred to this as "critical" to his invention or as his "invention."

<sup>4</sup> The District Court found that October 1969 was the earliest date Robert Gore asserts for his conception of the invention in the '566 patent.

The District Court found that in the 401 machine the distance between the stretch rollers controls the rate of stretch; a shorter distance results in a higher rate of stretch; for the process described in the '915 patent to be practiced with a rate of stretch below 10% per second, the distance between the stretch rollers would have to be greater than five feet; if the distance is less than four feet, the rate of stretch is greater than 10% per second; the machine drawings used to construct the 401 machine indicate that the distance between the stretch rollers was eight inches; a Gore employee testified that "I am reasonably sure that no effective [stretch] rolls in question would have been more than three feet simply because of the nature and size of the equipment" and that he did not remember any stretching more than three feet; another Gore employee testified that the distance between the rollers was "a maximum of 18 inches" (emphasis added); a document prepared by the same employee (an engineer) on June 10, 1969 reports that the stretch span was 8 inches; the 401 machine was the only stretching machine used by the Gore company; and the 401 machine was never substantially changed before October 1969. All this adds up to the fact that the 401 machine was at all relevant times operated with a stretch of less than four feet.<sup>5</sup> There is no question that the machine was so operated before October 1969 (the District Court found that sales of tape made by the 401 machine were proposed in August 1969).

I can accept Robert Gore's affidavit (to the PTO) that there was no stretching in the Gore shop at a rate exceeding about 10% per second prior to "my invention disclosed in the captioned patent application" (emphasis added)<sup>6</sup> only because that declaration was expressly qualified by the phrase "to my knowledge" (emphasis added). The District Court specifically found no specific intent by Robert Gore to defraud and, on this record, we

<sup>5</sup> The Gores (Robert and Wilbert) testified at trial that the distance was five feet but there is no indication that the trial court (which did not cite this testimony but did cite the opposing evidence) credited the Gores' testimony.

<sup>6</sup> The factor of the rate of stretching was of direct interest to the examiner during the prosecution of the '566 patent. In response to the examiner's express request for a declaration that the Gore firm's production of stretched PTFE tape, prior to Robert Gore's invention asserted here, did not involve stretching of unsintered PTFE at a rate exceeding about 10% per second, Robert Gore filed an affidavit in the PTO specifically stating that "to my knowledge" (emphasis added) the 401 machine did not involve stretching at a rate exceeding about 10% per second.

cannot properly overturn that finding. But the absence of personal intent to defraud does not mean or say that, whether Robert Gore realized it or not, the 401 machine was not actually operating, well before October 1969, to stretch unsintered PTFE at a rate exceeding about 10% per second. Cf. *O'Brien v. Westinghouse Electric Corp.*, 293 F.2d 1, 10 (3rd Cir. 1961). It seems impossible to me to reconcile Robert Gore's insistence on two facts—that (i) he invented the process in October 1969 and (ii) he had no knowledge prior to October 1969 of stretching PTFE at the critical rate—with the solid facts in the record as to the prior operation of the 401 machine, except on the view that Robert Gore did not realize that he and others in the Gore shop had made his invention previously.

2. It follows that in October 1969 the invention of '566 would have been obvious under §103 to Robert Gore because the prior practice of the 401 machine constituted prior art. Even if this was not prior art technically within §102, that statutory provision "is not the *only* source of prior art." *In re Fout*, 675 F.2d 297, 300 (CCPA 1982, emphasis in original). The 401 machine was practiced under the '915 patent (issued to Wilbert Gore) and, whether or not Robert Gore subjectively realized what was happening, he and others in the Gore shop were practicing the invention later embodied in the '566 patent. That was prior art at least as to Robert Gore. *Id.* at 300-01.<sup>7</sup>

3. If it be thought necessary to invoke §102 directly, in order to show anticipation, the record contains proof that the 401 machine was designed, constructed and used (just as described *supra*) in November and December 1968 and the early months of 1969—more than one year prior to the '566 patent application of May 21, 1970. See *Jt. App. E 1199-E 1200*. Section 102(b) therefore applies. Although commercial production was apparently not actively sought until June 1969, the practicing of the 401 machine prior to May 21, 1969 was "a public use" because the Gore company made "use of the device \*\*\* in the factory in the regular course of business." *Connecticut Valley Enterprises, Inc. v. United States*, 348 F.2d 949, 952, 146 USPQ 404, 406 (Ct. Cl. 1965).

<sup>7</sup> The District Court has found that there are no differences between claim 1 of the '566 patent and the processes previously used by the Gore firm to produce paste-extruded unsintered PTFE.

4. Also, §102(a)<sup>8</sup> applies here because Robert Gore was the inventor in the '566 patent and Wilbert Gore and others in the Gore shop were using the 401 machine before October 1969. Wilbert Gore (the inventor in the '915 patent under which the 401 machine was made and used) and the other employees are "others" within §102(a)—they are not the same as Robert Gore who claimed to be inventor of the process that ripened into the '566 patent.<sup>9</sup> See also §102(f), which would bar Robert Gore if he did not himself invent the subject matter of the '566 patent.<sup>10</sup>

5. The majority sustains the validity of claims 3 and 19 of the '566 patent (the claims also involved in appellant's suit for infringement) which are dependent on invalid claim 1. Because of the invalidity of claim 1 the only possible novelty in claim 3 would be the requirement that the rate of stretch would be about 100% per second, and the possible novelty of claim 19 would be that the final length would be greater than about five times the original length. My position is that both of these added elements, if novel, would have been obvious to persons of ordinary skill in the art.

The defect in the majority's analysis is that it neglects the cardinal fact that the prior art included the 401 machine (discussed *supra*), not merely the earlier patents assessed in the majority opinion. The 401 machine directly involved PTFE itself, not conventional thermoplastic polymers. That machine also directly involved rapid stretching of PTFE at a rate markedly exceeding 10%. With this prior art of the 401 machine before him, an ordinary person skilled in the art would maximize stretch rate, if only to improve the machine's production rate. Cf. *In re Dwyer, Jewell, Johnson, McGrath, & Rubin*, 317 F.2d 203, 207, 137 USPQ 540 (CCPA 1963). Moreover, the very existence and operation of the 401 machine, which stretched PTFE rapidly without breaking, suggests to the skilled person the probability of stretching at even higher rates. Certainly, in the light of the 401 machine, skilled workers would see in at least

<sup>8</sup> An invention is anticipated if it "was known or used by others in this country \*\*\* before the invention thereof by the applicant for patent" (emphasis added).

<sup>9</sup> It is undisputed that it was Wilbert Gore who initiated the project for the 401 machine and watched over it.

<sup>10</sup> The majority's discussion of "secondary considerations," though it is relevant to other aspects of this case, is irrelevant to the issue of anticipation raised by the 401 machine, and hardly persuasive as to the issues of obviousness based on or with respect to the 401 machine.

the prior Markwood, Nash, and Scarlett patents (teaching extensive and rapid stretching of non-PTFE thermoplastics) the suggestion that the method of the 401 machine could also be used for comparable rapid and extensive stretching of PTFE.

6. In sum, I cannot escape the conclusion that--although there was no fraud proved--if the true facts as to the 401 machine had been made known to the PTO (as it requested), the involved claims of the '566 patent should (and probably would) not have been accepted.

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**Court of Appeals, Second Circuit**

Harper & Row, Publishers, Inc. et al.  
v. Nation Enterprises et al.

Nos. 83-7277 and 83-7327

Decided Nov. 17, 1983

**COPYRIGHTS**

**1. In general (§24.01)**

Copyright Act sets out test for preemption of state statutory or common law that may conflict with federal policies embodied in Act.

**2. Matter copyrightable — Classes in statute (§24.303)**

Work of authorship in which rights are claimed must fall within "subject matter of copyright" as defined in Copyright Act Sections 102 and 103; Act embraces "works of authorship," including "literary works," as within its subject matter.

**3. Matter copyrightable — In general (§24.301)**

Fact that portions of memoirs may consist of uncopyrightable material does not take work as whole outside subject matter protected by Copyright Act; were this not so, states would be free to expand perimeters of copyright protection to their own liking, on theory that preemption would be no bar to state protection of material not meeting federal statutory standards; that interpretation would run directly afoul of one of Act's central purposes, to avoid development of any vague borderline areas between state and federal protection.

**4. In general (§24.01)**

Copyright Act requires that state law create legal or equitable rights that are equiv-

alent to any of exclusive rights within general scope of copyright as specified in Section 106 if it is to be preempted; these include rights to reproduce copyrighted work in copies, and to prepare derivative works based upon copyrighted work; when right defined by state law may be abridged by act that, in and of itself, would infringe one of exclusive rights, state law in question must be deemed preempted; conversely, when state law violation is predicated upon act incorporating elements beyond mere reproduction or the like, rights involved are not equivalent, and preemption will not occur.

**5. Rights embraced in copyright (§24.50)**

There is no qualitative difference between right of author and his licensed publishers to exercise and enjoy benefit of pre-book publication serialization rights; and exclusive right under Copyright Act of preparing derivative works based on copyrighted work; enjoyment of benefits from derivative use is so intimately bound up with right itself it could not possibly be deemed separate element.

**6. In general (§24.01)**

Fact that plaintiffs pleaded additional elements of awareness and intentional interference, not part of copyright infringement claim, in support of state law claim, goes merely to scope of right; it does not establish qualitatively different conduct on part of infringing party, nor fundamental non-equivalence between state and federal rights implicated.

**7. Matter copyrightable — In general (§24.301)**

Copyright Act protects only original works of authors; it grants rights not in ideas or facts, but in expression; one reasonable interpretation of word "discovery" in statute is "fact"; for example, historian who learns in his research that certain event has occurred has discovered fact; copyright does not preclude others from using ideas or information revealed by author's work; Act is thus able to protect authors without impeding public's access to information that gives meaning to our society's highly valued freedom of expression; neither news events, historical facts, nor facts of biographical nature are deserving of Act's protection; listing of names, nouns, or information is indisputably copyrightable as compilation, but preexisting facts contained in those lists are not protected.

**8. Matter copyrightable — In general (§24.301)**

Distinction between fact and expression is not always easy to draw; author's originality

In *Hercofina*, a copy of a "Joint Venture Agreement" was made of record which expressly appointed various "officials" to serve on a venture-created "Board of Managers" which ran the daily operations of the venture. This agreement stated that the "general manager" was "the chief executive and operating official of the Venture" having "general charge of the business and property of the Venture and sufficient and adequate authority to be the day-to-day manager of the affairs of the Venture." In addition, the "general manager" was expressly authorized to "execute, make, amend, deliver, file and abandon foreign and domestic applications, for and relating to letters patent and trademark and copyright registrations. . . ." *Hercofina*, 207 USPQ at 780-81.

[2] Although the central issue in the *Hercofina* case dealt with who is the proper signatory for a joint venture, there is no doubt that the facts of *Hercofina* and the instant case are closely aligned. In the present situation, the Applicant partnership created a "Partnership Board" much like the "Board of Managers" for the *Hercofina* joint venture. Both Boards appear to have similar functions in that they are responsible for managing the daily operation of the business through appointed officials. In both cases these operating officials have been given duties that are analogous to those of officers of a corporation, and indeed have been given officer titles such as "President" (in *Hercofina*, 207 USPQ at 780, the "general manager" was later designated as "President" of the Board) and "Senior Vice President, General Counsel and Secretary." In addition, both signatories have been given explicit authorization to act on the company's behalf with respect to any trademark filings, and both signatories have had the requisite personal knowledge regarding the use of the trademark.

Based upon the above analysis, it appears that the individual who signed both the application and Statement of Use was a proper signatory for Applicant partnership, and the documents were thus properly executed as required by Section 1 of the statute.

Accordingly, the petition is granted, and the application will be returned to the Examining Attorney for action consistent with this decision.

U.S. Court of Appeals  
Federal Circuit

In re Napier

No. 93-1363

Decided May 22, 1995

## PATENTS

### 1. Patentability/Validity — Obviousness — Relevant prior art — Particular inventions (§115.0903.03)

Application claim that teaches redirection of turbine engine exhaust noise by directing stream of relatively cold air through exhaust path of engine is obvious in view of prior patent that teaches noise reduction in turbine propulsion engines by mixing ambient air with hot combustion gases, since refraction of sound waves, and therefore redirection of noise, is inherent in prior patent, and since even if it is assumed that application claims are limited to non-propulsion engines, goal of achieving significant noise reduction from aircraft would have motivated one skilled in art to apply methods for reducing noise in propulsion engines to parallel problem of combustion noise from aircraft's non-propulsion auxiliary power unit.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of James C. Napier, serial no. 07/467,179, filed January 19, 1990 (redirection of turbine exhaust noise). From decision upholding examiner's rejection of application claims 1-3, 5, 7, 8 and 10, applicant appeals. Affirmed.

Donald E. Stout, William I. Solomon, and Alan E. Schiavelli, of Antonelli, Terry, Stout & Kraus, Arlington, Va., for appellant.

Fred E. McKelvey, solicitor, Albin F. Drost, deputy solicitor, Richard E. Schafer, associate solicitor, Joseph G. Piccolo, and Richard L. Torczon, assistant solicitors, for appellee.

John T. Whelan, of Fitzpatrick, Cella, Harper & Scinto, Washington, D.C.; Anthony W. Shaw, of Burns, Doane, Swecker & Mathis, Alexandria, Va., for amicus curiae.

Before Plager, Clevenger, and Schall, circuit judges.

Plager, J.

James C. Napier (Napier) appeals from the March 16, 1994 decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board), Appeal No. 93-0040. The Board affirmed the examiner's final rejection of claims 1-3, 5, 7, 8, and 10 of application Serial No. 07/467,179 (the '179 application), entitled "Redirection of Turbine Exhaust Noise." Claims 1-3 and 5 stand rejected under 35 U.S.C. §§ 102(b) and 103 (1988),<sup>2</sup> and claims 7, 8, and 10 stand rejected under 35 U.S.C. § 103. We agree that all the claims are unpatentable on the ground of obviousness under section 103, and therefore affirm.

### BACKGROUND

Noise from both non-transportation and transportation-related sources, like aircraft, has long been recognized as a serious environmental problem, affecting human health and activity.<sup>4</sup> A major source of noise emitted by modern jet aircraft is the engines they employ, both for propulsion and for auxiliary power. Propulsion engines move the plane, and provide power, mechanical, hydraulic, or electrical, for the operation of the aircraft while aloft. Auxiliary power units (APUs) are generally used to provide such operational power when the plane is on the ground.

Unlike the noise created by turbine propulsion engines, largely a function of fast moving exhaust air passing across relatively still air, the noise from an APU is produced by combustion within the engine. APUs, in operation when the plane is on the ground, are typically located in the rear section of the fuselage of an airframe behind the cargo doors. Their noise can be a problem for ground crew members working in or around the aircraft. Exhaust silencers have been used to reduce the amount of noise from APUs, but these have the disadvantage of being heavy and bulky, thereby reducing the operational efficiency of the aircraft.

<sup>1</sup> The Board also affirmed the examiner's rejection of claims 12-14, but appellant withdrew his appeal with respect to those claims.

<sup>2</sup> Unless specified otherwise, all cites to the United States Code are for the year 1988.

<sup>3</sup> Since we affirm under § 103 with respect to the claims 1-3 and 5, we do not address the § 102 rejection of these claims.

<sup>4</sup> See Roger W. Findley & S. Jay Plager, *State Regulation of Nontransportation Noise: Law and Technology*, 48 So. Cal. L. Rev. 209 (1974).

The '179 application is directed to an aircraft APU that redirects noise, produced by combustion, away from specific locations on the aircraft. The device works by directing a stream of relatively cold air in a separate cold air pipe through the exhaust path of the engine to create essentially parallel flowing streams. Since sound travels faster through denser mediums, and cold air is denser than warm air, once the exhaust gases and separately contained cold air exit from the exhaust pipe, the sound from the APU refracts toward the path of cold air instead of the path it otherwise would take. Therefore, placing the cold stream in the center of the exhaust pipe of an APU permits redirecting of the noise away from locations on the aircraft (such as the cargo doors where ground crew are working) forward of the point at which the APU is mounted on the fuselage, thereby reducing the noise level at those locations.

The '179 application was filed on January 19, 1990, with Napier as the sole named inventor. The claims of that application that are at issue in this appeal are claims 1-3, 5, 7, 8 and 10.<sup>5</sup> On September 17, 1991, the

<sup>5</sup> The claims read:

1. An auxiliary power unit in an airframe for producing only non-propulsion power which redirects noise produced by combustion comprising:

a combustor for producing combustion gases which contain noise produced by combustion;

a turbine rotor powered by the combustion gases from [sic, from] the combustor;

at least one power producing device driven by rotation of the turbine rotor;

an exhaust pipe having an inlet which receives combustion gases discharged from the turbine rotor and an outlet from which the combustion gases are discharged; and

means, disposed within the exhaust pipe, for refracting noise in the combustion gases outside the exhaust pipe in a predetermined direction outside the exhaust pipe with respect to a centerline of the exhaust pipe to produce a net noise reduction at a selected part of the airframe.

2. An auxiliary power unit in accordance with claim 1 wherein means for refracting comprises:

a cold air supply coupled to the exhaust pipe for injecting cold air into the combustion gases which flow within the exhaust pipe and from the outlet substantially parallel to the combustion gases to cause noise present in the exhaust gases outside the outlet to be refracted in the predetermined direction outside the exhaust pipe from the combustion gases into cold air flow flowing from the outlet.

3. An auxiliary power unit in accordance with claim 2 wherein the cold air supply injects air

examiner issued a final office action rejecting claims 1-3 and 5 as anticipated by U.S. Patent No. 4,567,960 (Johnson); claims 1-3 and 5 as obvious over Johnson; and claims 7, 8 and 10 as obvious over Johnson in view of U.S. Patent No. 3,599,749 (Millman).

Johnson is directed to a nozzle for reducing propulsion engine noise from aircraft during takeoff. The nozzle consists of air inlets that are connected to a central tube in the exhaust pipe such that during takeoff outside air is drawn into the central tube via the air inlets exiting at the downstream end of the central tube where it then mixes with the exhaust gases. According to Johnson, the mixture of the outside air with the exhaust gases produces a significant noise reduction during takeoff. Millman is also directed to a nozzle for suppressing noise from a propulsion jet engine, but it additionally discloses the use of a compressor to supply the air that mixes with the exhaust gases.

The Board affirmed the examiner's final rejection in a decision dated March 16, 1993. Regarding claims 1-3 and 5, the Board determined, *inter alia*, that it would have been obvious to utilize the noise suppression teachings of Johnson on a non-propulsion power unit. As to claims 7, 8 and 10, the Board concluded that the combined teachings of Johnson and Millman would have rendered obvious the inventions defined in claims 7, 8 and 10. This appeal followed.

## DISCUSSION

It is well established that the ultimate determination of obviousness is a question of

law, which we review without deference to the Board's judgment. See *In re Woodruff*, 919 F.2d 1575, 1577, 16 USPQ2d 1934, 1935 (Fed. Cir. 1990). Therefore, it is our responsibility to make the final conclusion based on our reading of the record before us, giving appropriate deference to the Board's underlying factual determinations, such as what a reference teaches. See *In re Beattie*, 974 F.2d 1309, 1311, 24 USPQ2d 1040, 1041 (Fed. Cir. 1992).

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990) (quoting *Carella v. Starlight Archery and Pro Line Co.*, 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed. Cir. 1986)). However, the "suggestion to modify the art to produce the claimed invention need not be expressly stated in one or all the references used to show obviousness." *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985). Rather, the test is whether the combined teachings of the prior art, taken as a whole, would have rendered the claimed invention obvious to one of ordinary skill in the art. See *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

Napier's principal argument on appeal is that Johnson teaches the reduction of noise by mixing, whereas his claimed invention is directed to the redirection of noise by refraction. Therefore, according to Napier, one of ordinary skill in the art would not have been motivated to utilize the teaching of Johnson to produce the claimed invention. We disagree.

[1] The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness. See *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983). The Board found that, although Johnson only discloses noise reduction resulting from the mixture of ambient air with the hot combustion gases, sound waves are inherently refracted in Johnson's system. In support, the Board relied on the teaching of the prior art British Patent No. 653,544 (British patent) which explicitly states that sound waves will be refracted from a hot gas to a cold gas due to the difference in densities.<sup>6</sup> In view of this

into a center portion of an interior cross-section of the exhaust pipe.

5. An auxiliary power unit in accordance with claim 3 wherein:

the auxiliary power unit is mounted in a rear portion of an airframe; and

the noise is refracted in a direction toward a centerline extending from the exhaust pipe and toward a rear end of the airframe behind the auxiliary power unit to reduce the net noise at a cargo door of the airframe.

7. An auxiliary power unit in accordance with claim 2 further comprising a compressor for supplying compressed air to the combustor and to the cold air supply.

8. An auxiliary power unit in accordance with claim 3 further comprising a compressor for supplying compressed air to the combustor and to the cold air supply.

10. An auxiliary power unit in accordance with claim 5 further comprising a compressor for supplying compressed air to the combustor and to the cold air supply.

<sup>6</sup>Col. 2, 11. 69-75. The British patent discloses a means and method for reducing aircraft noise by positioning a baffle between the engine and fuselage such that relatively cold ambient air passes between the exhaust stream and the baffle,

evidence and the deference owed to Board fact findings, we conclude that the Board properly found that Johnson inherently discloses redirection of noise.

Regarding claim 1, the only other argued difference between the claimed invention and Johnson is that Johnson is directed to propulsion engines whereas Napier's claims are limited to non-propulsion APUs. Since noise from propulsion engines comes from shearing whereas noise from APUs is a result of combustion in the engine, it follows, Napier argues, these are directed to different specific problems, and therefore one of ordinary skill would not be motivated to utilize the teachings of Johnson regarding propulsion engines to solve the distinct problems regarding non-propulsion APUs. We again cannot agree.

Even if we assume that Napier's claims are limited to only APUs,<sup>7</sup> propulsion engines and APUs combine to create the problem of noise generated from aircraft. It makes no difference that Johnson may have addressed a different mechanical source of the problem within the area of aircraft noise reduction, or a different noise-producing process. We agree with the Board that the goal of Johnson, to achieve "significant noise reduction" <sup>8</sup> from aircraft would have motivated one of skill in the art to apply teachings regarding noise reduction methods applicable to shear-generated noise from an aircraft's propulsion engine to the parallel problem of combustion noise from an aircraft's non-propulsion APU. See *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039-40 (Fed. Cir. 1983). Thus we conclude that the Board did not err in rejecting claim 1 under section 103.

Napier has separately argued the merits of some of the other rejected claims, and therefore we must review the Board's decision with respect to each separately argued claim. As to claims 2 and 5,<sup>9</sup> Napier argues that it would not have been obvious to use a parallel flow of cold air and exhaust gases as recited in claim 2 or to redirect noise to produce a net reduction in noise at the cargo door as recited in claim 5. Although the Board did

thereby redirecting noise from the exhaust stream into the baffle.

Napier argues that the reference to APUs in the preamble of claim 1, which is incorporated into the other claims through their dependency, is a limitation. We do not need to address this issue since we conclude that this difference does not save the claims from rejection under section 103.

<sup>7</sup>Col. 6, 11, 56-57.

<sup>9</sup>Napier has not separately argued the patentability of claim 3.

not separately address claim 2, even if this limitation — substantially parallel flow — was not found in Johnson, this would not be enough to avoid a rejection of the claim under section 103. Moreover, our review of the record shows that Figs. 3 and 4 of Johnson both show substantially parallel flow of the cold air and exhaust gases. As to claim 5, the Board concluded that since Johnson inherently reduces noise, the net noise at the cargo door would likewise be reduced. We find no reversible error in this finding, either. We therefore also affirm the Board's rejection of claims 2 and 5 as obvious over Johnson.

Finally, Napier argues that the Board erred in concluding that claims 7, 8 and 10 were obvious over the combination of Johnson and Millman. These claims, which depend from claims 2, 3 and 5 respectively, all contain the further limitation that the compressor supply compressed air to the combustor and to the cold air supply. The Board found that Millman explicitly teaches that cold air from the compressor may be delivered via a conduit to the area of the exhaust pipe for the purpose of reducing noise, and therefore fairly suggested using this cold supply in Johnson's noise suppression system. We find no reversible error in that finding, and therefore, conclude, as did the Board, that Johnson in view of Millman renders claims 7, 8 and 10 obvious.

The Commissioner in his brief argues that in deciding this case, we should apply to the decision of the Board the standard of review applicable to administrative agency decisions set forth in the Administrative Procedure Act at 5 U.S.C. § 706, rather than the more stringent review standard our cases have articulated. See, e.g., *In re Baxter Travenol Labs*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *In re De Blauwe*, 736 F.2d 699, 222 USPQ 191 (Fed. Cir. 1984). Whatever merit may lie in that position, the Commissioner will no doubt be gratified to know that we were able to affirm the Board in this instance under the more stringent standard. We thus find it unnecessary to address the question of whether the APA standard is, in an appropriate case, the applicable one. See *In re Brana*, \_\_\_\_\_ F.3d \_\_\_\_\_, 34 USPQ2d 1436 (Fed. Cir. 1995).

## CONCLUSION

The decision of the Board, sustaining the final rejection of claims 1-3, 5, 7, 8 and 10 as

obvious, is affirmed.

**AFFIRMED**

**U.S. Court of Appeals  
Federal Circuit**

**Ray v. Lehman**

No. 94-1236

Decided May 17, 1995

**PATENTS**

**1. Practice and procedure in Patent and Trademark Office — Fees (§110.03)**

Showing of unavoidable delay required by Patent and Trademark Office for acceptance of late payment of maintenance fee under 35 USC 41(c)(1) is not inconsistent with unavoidable delay standard for revival of abandoned application under 35 USC 133, since under both statutes, PTO requires proof that party exercised due care of reasonably prudent person, and since 37 CFR 1.378(b)(3), which sets forth manner in which party must prove such reasonable prudence, does not impose additional requirements.

**2. Practice and procedure in Patent and Trademark Office — Fees (§110.03)**

Patentee whose patent expired for nonpayment of maintenance fee required by 35 USC 41(b) clearly received notice mandated by due process, since Patent and Trademark Office provided notice of fees due on inside cover of patent document in patentee's possession, and also mailed reminder letter to patentee's designated legal representative; patentee's contention that he did not read patent, and that notice to his legal representative was sent to "obsolete" address, does not show that delay in paying maintenance fee was unavoidable within meaning of 35 USC 41(c)(1), especially in view of patentee's failure to provide his current address to either legal representative or PTO.

Appeal from the U.S. District Court for the District of Columbia, Pratt, J.

Action by Ralph D. Ray against Bruce Lehman, commissioner of patents and trademarks, seeking injunction reinstating patent following its expiration for failure to pay maintenance fee. From entry of summary judgment upholding refusal of Patent and Trademark Office to reinstate patent, plaintiff appeals. Affirmed.

Charles E. Bruzga, New York, N.Y., for appellant.

Richard Torczon, assistant solicitor, PTO, Albin F. Drost and Nancy J. Linck, solicitor, for appellee.

Before Rich, Plager, and Lourie, circuit judges.

**Rich, J.**

Ralph D. Ray (Ray) appeals the January 25, 1994 decision of the United States District Court for the District of Columbia granting the Patent and Trademark Office (PTO) Commissioner's motion for summary judgment affirming the PTO's denial of Ray's petition to reinstate his patent for failure to pay a maintenance fee. We affirm.

**I. Background**

Ray, with the assistance of a patent agent, Tom Sherrard (Sherrard), filed a patent application on July 8, 1983 which issued as U.S. Patent No. 4,466,797 ('797 patent) on August 21, 1984. Upon issuance of the '797 patent, in section 1A of the issue fee transmittal notice, Sherrard listed his own address for receipt of further correspondence from the PTO.

The PTO mailed a letter to Sherrard on March 22, 1988 reminding him that the first maintenance fee, required 3 years and 6 months after issuance of the '797 patent, was soon due. Under 35 U.S.C. § 41(b) (1988), a grace period of 6 months is provided to pay each maintenance fee. Therefore, the first maintenance fee for the '797 patent was due at the latest, 4 years after the issue date, August 21, 1988. Sherrard, who had retired from practice sometime after the '797 patent issued, forwarded the PTO's letter to the last address he had for Ray. The letter was returned to Sherrard as undeliverable. Sherrard did not pay the maintenance fee and the '797 patent expired.

Ray did not discover that the '797 patent expired until March 1990. Soon thereafter he attempted *pro se* to have the patent reinstated by filing a paper entitled "Petition to Accept Delayed Payment of Maintenance Fee in an Expired Patent 37 CFR 1.378" (the petition) in the PTO. In the petition, Ray asserted that he had "no knowledge whatsoever that any maintenance fee would be due in connection" with the '797 patent. Ray maintained that Sherrard had not told him of the maintenance fee requirement and that he "knew of no reason to keep in contact with Mr. Sherrard after his retirement."

by the district court and is not pressed before us. Nor does Biomet pursue the argument that even if the opinion were subject to a waived attorney-client privilege, its attorney had not waived his work product immunity.<sup>2</sup>

Thus although the district court's denial of the requested discovery of Biomet's counsel may or may not have been the correct result, it can not have been correct on the reasoning upheld by the majority. The issue of waiver requires review, in the first instance by the district court, on the proper standard.



In re Edgar L. STENCEL, Appellant.

No. 87-1110.

United States Court of Appeals,  
Federal Circuit.

Sept. 2, 1987.

Applicant appealed from decision of Patent and Trademark Office Board of Patent Appeals and Interferences that rejected claims of patent application entitled "a driver for a lobed collar" for failure to meet requirements for patentability. The Court of Appeals, Pauline Newman, Circuit Judge, held that: (1) prior art against which patentability was measured was driver suitability for use in combination with particular collar; (2) combined teachings of prior art did not suggest structure of claimed driver; and (3) applicant was entitled to claimed driver, limited by state-

P.Q. 508, 511 (S.D.N.Y.1969), wherein a non-party shared a validity opinion in confidence with a party to the suit, the *Stix* court held that because there was a community of interest in demonstrating the invalidity of the patent, the sharing of the opinion did not constitute waiver of the work product immunity of the attorney who prepared the opinion.

ment of purpose and further defined by remaining causes of claims at issue.

Reversed.

#### 1. Patents ⇐101(5)

Applicant could describe driver in terms of structure imposed upon driver by collar having plastically deformable lobes in application for patent on driver adapted to set a joint with a particular threaded lobed collar; prior art against which patentability was measured was not all drivers broadly, but rather, driver suitable for use in combination with particular collar. 35 U.S.C.A. § 103.

#### 2. Patents ⇐16(3)

Test in determining whether claimed invention would have been obvious is what combined teaching of references would have suggested to one of ordinary skill in the art. 35 U.S.C.A. § 103.

#### 3. Patents ⇐16.1

Applicant's fastener system was not prior art against claims of his own application for patent on driver adapted to set joint with a particular threaded lobed collar; combined teachings of references would not have suggested structure of claimed driver, absent prior knowledge of applicant's fastener system. 35 U.S.C.A. § 103.

#### 4. Patents ⇐26(1)

Obviousness is not established by combining teachings of prior art to produce claimed invention, absent some teaching or suggestion that combination be made. 35 U.S.C.A. § 103.

#### 5. Patents ⇐16.17

Applicant was entitled to claim driver adapted to set joint with a particular

2. See *United States v. American Telephone and Telegraph Co.*, 642 F.2d 1285, 1299 (D.C.Cir. 1980) in which the court states:

[W]hile the mere showing of a voluntary disclosure to a third person will generally suffice to show waiver of the attorney-client privilege, it should not suffice in itself for waiver of the work product privilege.

See also *Hickman v. Taylor*, 329 U.S. 495, 510-514, 67 S.Ct. 385, 393-395, 91 L.Ed. 451 (1947).

threaded lobed collar, limited by statement of purpose and further defined by remaining causes of claims at issue, absent suggestion in prior art of driving having claimed structure and purpose. 35 U.S.C.A. § 103.

E. Roderick Cline, Christie, Parker & Hald, Pasadena, Cal., for appellant.

Joseph F. Nakamura, Solicitor, Fred McKelvey, Deputy Solicitor and John W. Dewhirst, Associate Solicitor, Office of the Solicitor, of Arlington, Va., for appellee.

Before FRIEDMAN, NEWMAN, and BISSELL, Circuit Judges.

PAULINE NEWMAN, Circuit Judge.

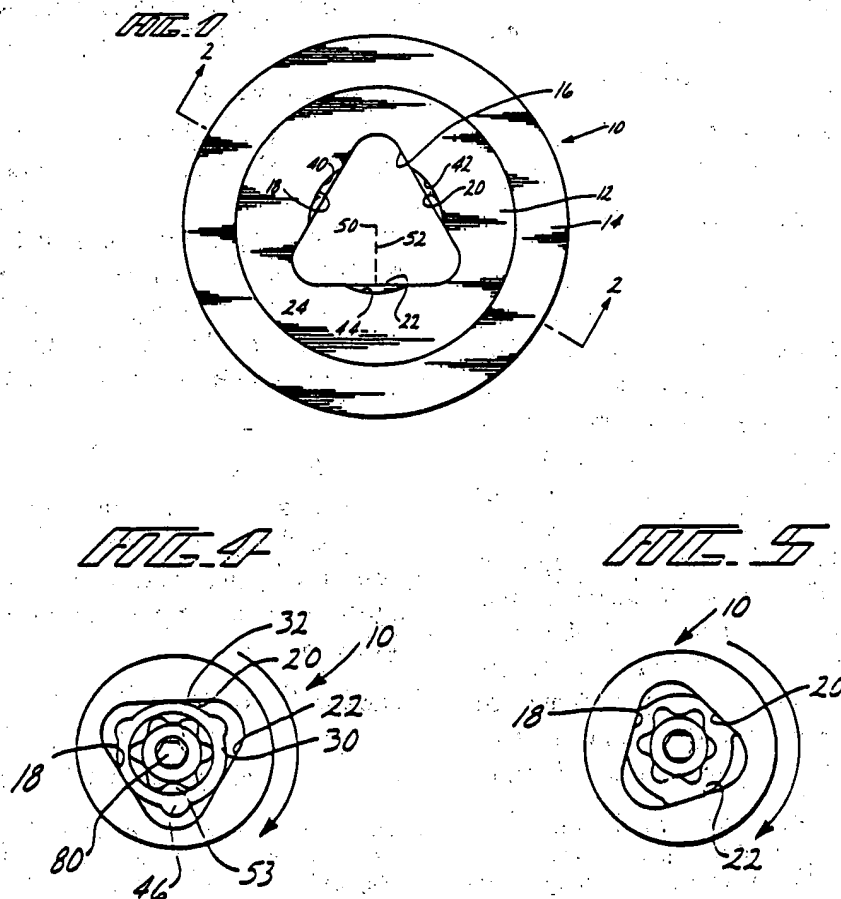
The decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board), rejecting

claims 1 through 14 of Stencel patent application Serial No. 250,895 entitled "A Driver for a Lobed Collar" for failure to meet the requirements for patentability set out in 35 U.S.C. § 103, is reversed.

### OPINION

The claimed invention relates to a driver that is adapted to set a joint with a particular threaded lobed collar. The driver turns the collar until, when the collar is tight against the workpiece, the lobes of the collar are deformed by the driver. The collar and the bolt then lock together, and the driver can no longer turn the collar.

Figures 1, 4 and 5 are illustrative, Figure 1 showing the driver body having a deltoid socket, and Figure 4 showing the driver socket on the collar before and Figure 5 after tightening.



Claim 1 is the broadest claim:

1. A driver for setting a joint of a threaded collar, a threaded pin, and at

least one sheet, the collar having plastically deformable lobes on its longitudinal exterior that upon the existence of a predetermined clamp-up load between the collar and the sheets plastically deform in radial compression and displace material of the collar into void volumes between the collar and the pin to lock the two together and terminate the action of the driver on the collar, the driver comprising:

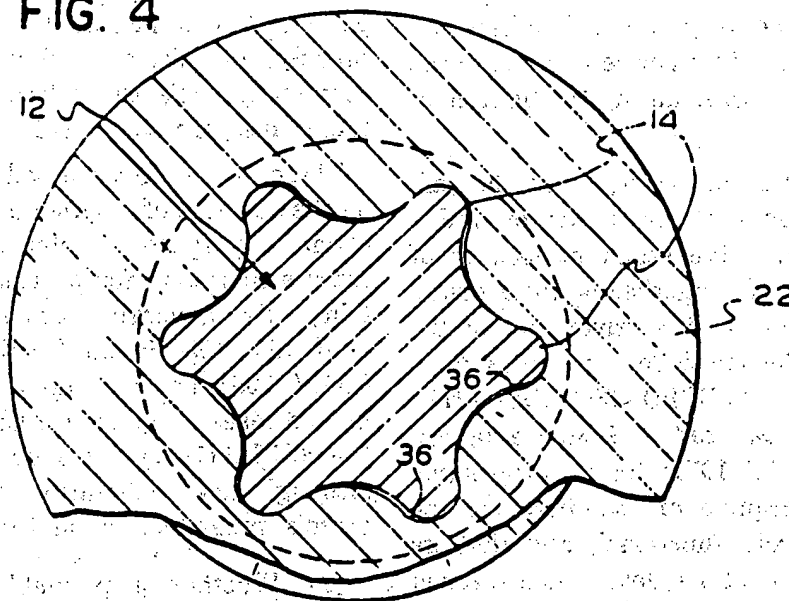
- (a) a body having a rotational axis;
- (b) a socket in the body having a plurality of flats that when cut by radial planes normal to the rotational axis fall on the sides of a regular polygon, the flats being parallel to the rotational axis;
- (c) the minimum distance between each flat and the rotational axis corresponding substantially to the radius of

the collar at the location of the lobes after their plastic deformation; and

(d) means on the body to receive a wrenching torque applied to the driver so that the flats apply the torque to the lobes of the collar.

The examiner rejected the claims on a combination of two references showing drivers, stating that it would have been obvious to include the flats of Grabovac U.S. Patent No. 3,979,979 in a driver of the type disclosed in Reiland U.S. Patent No. 3,763,725. Reiland shows a driver having a socket with recesses that engage the lobes of a bolthead, shearing them when a predetermined torque is applied to the driver, and leaving a residual portion of the lobes to allow for removal. The Reiland driver is illustrated as follows:

FIG. 4



The Grabovac patent teaches a driver socket having flat sides in its interior, as shown

in this figure:



*Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

[3,4] The cited references would not have taught or suggested the structure of the claimed driver in the absence of prior knowledge of Stencel's fastener system. Stencel's system is not prior art against the claims of his own patent application. Nor is obviousness established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion that the combination be made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed.Cir.1985); *In re Corkill*, 771 F.2d 1496, 1501-02, 226 USPQ 1005, 1009-10 (Fed.Cir.1985).

[5] Stencel is not inhibited from claiming his driver, limited by the statement of its purpose, and further defined by the remaining clauses of the claims at issue, when there is no suggestion in the prior art of a driver having the claimed structure and purpose. See *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed.Cir. 1986).

We conclude that it would not have been obvious to put the Grabovac flats in the Reiland driver unless one had in mind the purpose taught by appellant. This purpose, set forth in the claims themselves, "is more than a mere statement of purpose; and that language is essential to particularly point out the invention defined by the claims." *In re Bulloch*, 604 F.2d 1362, 1365, 203 USPQ 171, 174 (CCPA 1979). See also *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 896, 221 USPQ 669, 675 (Fed.Cir.), cert. denied, 469 U.S. 857, 105 S.Ct. 187, 83 L.Ed.2d 120 (1984) (the limitations appearing in the preamble are necessary to give meaning to the claim and properly define the invention).

REVERSED.

**WINDSURFING INTERNATIONAL  
INC., Plaintiff-Appellant,**

**v.**

**AMF INCORPORATED,  
Defendant-Appellee.**

**No. 87-1232.**

**United States Court of Appeals,  
Federal Circuit.**

**Sept. 9, 1987.**

Three actions relating to validity, infringement and enforceability of reissue patent for sailing surfboard were consolidated. The United States District Court for the Southern District of New York, Morris E. Lasker, J., 613 F.Supp. 933, entered judgment. Appeal was taken. The Court of Appeals; Markey, Chief Judge, held that the district court lacked jurisdiction over action.

Remanded.

**1. Declaratory Judgment ⇐62, 64**

To have actual case or controversy in declaratory judgment action, plaintiff must have real and reasonable apprehension of litigation, and plaintiff must have engaged in course of conduct which brought it into adversarial conflict with declaratory defendant. 28 U.S.C.A. § 2201; U.S.C.A. Const. Art. 3, § 1 et seq.

**2. Declaratory Judgment ⇐237**

Defendant's mere desire to use "windsurfer" and "windsurfing" in connection with its products did not constitute course of conduct placing it in legally adversarial conflict with plaintiff respecting plaintiff's "Windsurfer" trademark registrations and did not present a justiciable controversy; therefore, district court lacked jurisdiction over defendant's action for declaration that plaintiff's trademark had become generic requiring cancellation of trademark registration. 28 U.S.C.A. § 2201; U.S.C.A. Const. Art. 3, § 1 et seq.

the Skinner claim. On or before July 31, 1998, plaintiffs shall file any response.

IT IS SO ORDERED.



**WINNER INTERNATIONAL  
ROYALTY CORPORATION,**  
Plaintiff-Appellee,

v.

**Ching-Rong WANG, Defendant-  
Appellant.**

No. 98-1553.

United States Court of Appeals,  
Federal Circuit.

Jan. 27, 2000.

Rehearing and Rehearing En Banc  
Denied March 6, 2000.

Owner of patent and patent application claiming automobile anti-theft device brought action challenging decision of the Board of Patent Appeals and Interferences, in interference proceeding, declaring patent and application claims invalid as obvious. Competitor's motion to transfer action to California was denied, 1998 WL 268279. Following bench trial, the United States District Court for the District of Columbia, Stanley Sporkin, J., 11 F.Supp.2d 18, overturned Board's decision, and competitor appealed. The Court of Appeals, Michel, Circuit Judge, held that: (1) owner's submission to district court of live testimony on all matters before the Board required court to conduct trial de novo; (2) patent was not invalid as obvious; (3) allowing allegedly late-disclosed witnesses to testify was not abuse of discretion; (4) evidence regarding nexus between commercial success of claimed invention and patentably distinct feature of invention was admissible; and (5) competitor was not entitled to transfer.

Affirmed.

**1. Federal Courts ⇨776, 850.1**

On appeal following a bench trial, Court of Appeals reviews the district

court's factual findings for clear error and its conclusions of law de novo.

**2. Patents ⇨114.16**

Patent owner's submission to district court of live testimony on all matters before the Board of Patent Appeals and Interferences, in owner's action for review of interference decision, required district court to conduct trial de novo, based both on Board record and the district court evidence. 35 U.S.C.A. § 146.

**3. Patents ⇨114.16, 114.22**

The admission of live testimony on all matters before the Board of Patent Appeals and Interferences, in a district court action for review of a decision in an interference proceeding, makes a factfinder of the district court and requires a de novo trial; thus, although the live testimony before the district court might be the same or similar to testimony before the Board in the form of affidavits and deposition transcripts, a district court should still make de novo factual findings, while treating the record before the Board when offered by a party as if it was originally taken and produced in the district court. 35 U.S.C.A. § 146.

**4. Patents ⇨16(1, 2), 314(5)**

Obviousness of a patent claim is a question of law based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the prior art and the claimed invention; and (4) extent of any objective indicia of non-obviousness. 35 U.S.C.A. § 103.

**5. Patents ⇨114.25, 324.55(4)**

The ultimate determination of obviousness of a patent claim by a district court is reviewed by the Court of Appeals de novo while the underlying factual inquiries are reviewed for clear error, regardless of whether Court is reviewing judgment in an infringement suit or judgment in an action for review of an interference proceeding. 35 U.S.C.A. § 103.

**6. Patents ⇨26(1)**

When determination of patent's obviousness is based on multiple prior art references, there must be a showing of some teaching, suggestion, or reason to combine the references. 35 U.S.C.A. § 103.

**7. Patents ⇨314(5)**

Whether motivation to combine prior art references was shown by party asserting that patent was obvious is a question of fact. 35 U.S.C.A. § 103.

**8. Patents ⇨26(1)**

Evidence of a suggestion, teaching, or motivation to combine prior art references in manner rendering patent obvious may flow, inter alia, from the references themselves, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. 35 U.S.C.A. § 103.

**9. Patents ⇨36(1)**

Although a prior art reference need not expressly teach that the disclosure contained therein should be combined with another, to render a patent invalid as obvious, the showing of combinability, in whatever form, must nevertheless be clear and particular. 35 U.S.C.A. § 103.

**10. Patents ⇨36(3)**

Competitor failed to show motivation or suggestion to combine prior art references disclosing claimed automobile anti-theft device and its feature of self-locking ratcheting mechanism, as required to show prima facie case of obviousness, since one of ordinary skill in the art would not have reasonably elected trading benefit of security for that of convenience, which would result from use of ratcheting mechanism, and reference disclosing invention's other features taught away from the ratcheting mechanism. 35 U.S.C.A. § 103.

**11. Patents ⇨314(5)**

What a prior art reference teaches and whether it teaches toward or away from a claimed invention are questions of fact.

**12. Patents ⇨16(3)**

A prior art reference will "teach away" if it suggests that the line of devel-

opment flowing from the reference's disclosure is unlikely to be productive of the result sought by the patent applicant.

See publication Words and Phrases for other judicial constructions and definitions.

**13. Patents ⇨36.2(5)**

Where party challenging patent as obvious failed to establish a prima facie case of obviousness, patentee was not required to establish objective indicia of non-obviousness, such as commercial success. 35 U.S.C.A. § 103.

**14. Patents ⇨36.2(9)**

Even if competitor established prima facie proof that patent for automobile anti-theft device was obvious, commercial success of invention overcame other obviousness factors and patent was thus not invalid. 35 U.S.C.A. § 103.

**15. Federal Courts ⇨823**

A district court's decision to admit or exclude evidence at trial is reviewed for abuse of discretion.

**16. Federal Courts ⇨921**

District court could not be deemed to have abused its discretion in allowing allegedly late-disclosed witnesses to testify, absent identification of which witnesses should not have been permitted to testify.

**17. Patents ⇨36.2(1)**

Evidence regarding nexus between commercial success of claimed invention and patentably distinct feature of invention was relevant, and indeed necessary, to establish commercial success, and evidence was thus admissible to show commercial success as factor overcoming prima facie case that invention was obvious, in action for review of decision of Board of Patent Appeals and Interferences declaring patent invalid. 35 U.S.C.A. § 103.

**18. Courts ⇨96(7)**

District court's denial of motion to transfer action for the convenience of parties and witnesses, in the interest of justice, was procedural matter, so review of

that issue by Court of Appeals for the Federal Circuit was governed by law of the district court's regional circuit. 28 U.S.C.A. § 1404(a).

### 19. Federal Courts ¶110

Competitor was not entitled, in the interest of justice, to transfer of patent owner's action for review of administrative interference decision to district in which related actions had been stayed pending outcome of interference and instant action, as it was unclear that other forum would be more convenient, and action could likely be resolved more quickly if it was not transferred. 28 U.S.C.A. § 1404(a).

Kenneth A. Lapatine, Camhy Karlinsky & Stein, of New York, New York, argued for plaintiff-appellee. Of counsel on the brief was Charles L. Gholz, Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

Joseph A. Yanny, Yanny, Grieco & Osher, of Los Angeles, California, argued for defendant-appellant. With him on the brief were Mary L. Grieco, and Michael A. DiNardo. Of counsel on the brief were Charles R. Wolfe, Jr., and Richard E. Fitcher, Bacon & Thomas, of Alexandria, Virginia.

Before MICHEL, RADER, and GAJARSA, Circuit Judges.

MICHEL, Circuit Judge.

Ching-Rong Wang ("Wang") appeals from the judgment of the United States District Court for the District of Columbia, overturning the decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences (the "Board") in an interference, and holding that the inventions of claims 2 and 4 of U.S. Patent No. 4,935,047 ("the '047 patent") and claims 9-11 of U.S. Patent App. No. 07/478,411 ("the '411 application") would not have been obvious in light of the cited prior art. See *Winner Int'l Royalty Corp. v. Wang*, 11 F.Supp.2d 18, 48 USPQ2d 1139 (D.D.C. June 12, 1998). The '047 patent, issued to Jinn Wu ("Wu"), and the '411 application are owned by Win-

ner International Royalty Corp. ("Winner"). The district court had jurisdiction pursuant to 35 U.S.C. § 146 (1994) because Wu filed suit there after an adverse ruling by the Board in an interference between himself and Wang. Winner, as owner of Wu's patent, superseded Wu as plaintiff. The Board held the Wu patent and application claims invalid as obvious. See 35 U.S.C. § 103 (1994). Other litigation (including suit against Wang), in which Winner alleges infringement of its '047 patent and asserts several related claims, has been stayed in the Central District of California pending the outcome of this appeal. The district court first denied Wang's motion to transfer this action to the District Court for the Central District of California. See *Winner Int'l Royalty Corp. v. Wang*, 45 USPQ2d 1864, 1998 WL 268279 (D.D.C. Jan.20, 1998). Then it conducted a 7 day bench trial. On appeal, Wang challenges (1) the denial of the transfer; (2) rulings as to the admission of evidence despite its similarity to that before the Board; and (3) the holding of non-obviousness that revived the '047 patent. This case was submitted for our decision following oral argument on August 2, 1999. Because the district court did not clearly err in any of its factual findings relating to obviousness, did not err in its ultimate determination of non-obviousness, and did not abuse its discretion either in admitting the challenged documentary evidence and testimony or in refusing to transfer the case, we affirm.

### BACKGROUND

In addition to the '047 patent, Winner also owns U.S. Patent No. 4,738,127 ("Johnson"), the commercial embodiment of which is the original steering wheel anti-theft device known as "The Club." Wu, the principal in the Taiwanese manufacturer of the original Club, is named as the inventor in the '047 patent, commercial embodiments of which are known as "The Super Club," "The Ultra Club," and "The Club GL." The '047 patent discloses an automo-

bile anti-theft device that is mounted across the steering wheel and is locked in place by use of a self-locking ratcheting mechanism. Like all versions of the Club, when locked in place, the commercial embodiments of the '047 patent prevent theft by blocking the steering wheel from turning. The ratcheting mechanism is different from the dead-bolt used in Johnson and so the '047 patent may be thought of as an improvement over Johnson. While Johnson's dead-bolt system is more secure, it is not as convenient as the ratcheting mechanism claimed in the '047 patent because a key is required to lock the Johnson device in place while the '047 patent discloses a device that locks itself without use of a key.<sup>1</sup>

Wang also manufactures similar anti-theft devices in Taiwan and exports them to the U.S. where he sells them through his United States distributor. Wang's device is known commercially as "The Gorilla Grip." Wang filed a patent application directed to his Gorilla Grip device and was issued U.S. Patent No. 4,887,443 ("the '443 patent").

In 1990, Wu discovered that the device disclosed in Wang's '443 patent was very similar to the subject matter of his then-pending application, which later issued as the '047 patent, and decided to provoke an interference by filing a divisional application and submitting a claim identical to the broadest claim in the '443 patent. On August 8, 1991, an interference was declared, and a proceeding began to determine which party, Wu or Wang, had priority of invention. The claims of the '047 patent and an additional Wu application, the '411 application, were eventually added to the count in the interference.

During the interference proceeding, Wang filed a preliminary motion alleging that the interference count, and hence both parties' claims, was unpatentable as obvi-

ous in light of certain prior art under 35 U.S.C. § 103 (1994). Wang, apparently acknowledging that his claim to priority over Wu's '047 patent was questionable, ultimately conceded that his '443 patent was invalid and sought to prove that Wu's '047 patent was also invalid.

After a final hearing, the Board, in a split decision, held all affected claims invalid except for claims 1 and 3 of the '047 patent. Wu then filed both an appeal to this court pursuant to 35 U.S.C. § 141 (1994) and an action in the District Court for the District of Columbia pursuant to 35 U.S.C. § 146, while Wang filed a section 146 action in the District Court for the Central District of California. In Wu's section 141 appeal from the decision of the Board, this court determined that the section 146 suit would proceed pursuant to Wu's complaint in the District Court for the District of Columbia. *See Wu v. Wang*, 129 F.3d 1237, 44 USPQ2d 1641 (Fed.Cir.1997). Because Wu filed his appeal first, and responded in timely fashion to Wang's notice of election by filing a section 146 action in the District Court for the District of Columbia, Wu's choice of forum governed. *See id.* at 1242-43, 44 USPQ2d at 1645-46. We then dismissed the section 141 appeal as superseded by the section 146 action. *See id.* at 1238, 44 USPQ2d at 1642.

After the first appeal to this court, Wang filed a motion in the district court to transfer the action to the Central District of California. The district court denied the motion. *See Winner*, 45 USPQ2d 1864. After a seven-day bench trial, the district court held that the inventions of claims 2 and 4 of the '047 patent would not have been obvious in light of the cited prior art. *See Winner*, 11 F.Supp.2d 18, 48 USPQ2d 1139.<sup>2</sup> At trial, Winner presented testimony on each of the four principal factual issues underlying an obvious-

1. In both devices a key is needed to unlock the device.

2. The related claims in the '411 application were also found not unpatentable, but were

not separately addressed by the district court and are not separately argued on appeal. Therefore, we do not address them separately either.

ness determination, as well as affidavits. Wang presented one expert witness to testify as to his opinion regarding obviousness and the underlying factual determinations. The record before the Board was also admitted into evidence before the district court.

The focus of the trial was on four prior art references that Wang alleged, before the court as he had before the Board, rendered the invention of the '047 patent obvious. These references were Johnson (mentioned above), U.S. Patent No. 3,462,982 ("Moore"), Taiwan Patent App. No. 74,210,699 ("WuROC"), and French Patent App. No. 2,566,398 ("Grimaldi"). Winner also introduced evidence of the commercial success of its Super Club line of products. This evidence had not been presented to the Board.

Like the device disclosed in the '047 patent, the mechanism of Johnson immobilizes the steering wheel by the user inserting it within the steering wheel, telescoping its arms outward so that hooks on the end of the arms engage the steering wheel, and then locking the arms in place. As stated earlier, unlike the '047 patent, which discloses a self-locking ratcheting mechanism, Johnson uses a dead-bolt to lock the device in place, which requires the user to turn a key after putting the device on the wheel. Moore discloses a steering wheel lock that unfolds into a "Y" shape and utilizes a self-locking ratcheting mechanism, which does not require a key. WuROC discloses a wheel and brake pedal locking device with a versatile locking core that can accommodate either a dead-bolt or a self-locking ratcheting mechanism, but it does not disclose either of these locking mechanisms. Grimaldi discloses a two-piece mechanism for locking a clutch or brake pedal to the floorboard or firewall of a car and its figures appear to show a rod and pawl mechanism that locks it into place.

The key issue tried was the presence or absence of sufficient proof of a motivation to combine the four prior art references. The Board had found that one skilled in

the art (1) "would have considered Johnson's dead-bolt-type locking device to be disadvantageous compared to the Moore and WuROC devices to the extent that Johnson requires a key for setting in position and adjusting the device," and (2) "would have been motivated to make Johnson easier to use, albeit less secure, by replacing the dead-bolt mechanism" of Johnson with a suitable self-locking ratcheting mechanism. The district court found that these factual findings were "clearly erroneous" and found that adequate motivation to combine the references was not shown. *See Winner*, 11 F.Supp.2d at 23-24, 48 USPQ2d at 1143-44. The district court also found that Winner established commercial success resulting from the improvement claimed in the '047 patent, even though it held such a finding immaterial in light of Wang's failure to establish a prima facie case of obviousness. *See id.* Accordingly, the district court held that on this record the inventions of claims 2 and 4 of the '047 patent would not have been obvious and overturned the Board's decision as to those claims. *See id.* at 25, 48 USPQ2d at 1145.

Wang appeals, contending that the district court should have applied a substantial evidence standard of review on factual issues rather than, as it said it was doing, review for clear error. Wang asserts that the district court incorrectly concluded that the invention of the claims would not have been obvious, and abused its discretion in admitting the challenged documentary evidence and testimony as duplicative of evidence in the Board record and in denying Wang's motion to transfer the case to the Central District of California. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(3)(C) (1994).

## DISCUSSION

### I.

#### STANDARD OF REVIEW

[1, 2] We review the district court's factual findings for clear error and its

conclusions of law *de novo*, as with any bench trial. See *Gould v. Quigg*, 822 F.2d 1074, 1077, 3 USPQ2d 1302, 1303-04 (Fed. Cir.1987) (affirming district court's reversal of Board decision with respect to enablement). It is not as clear, however, what degree of deference inheres in the standard of review the district court was required to apply to the Board's decision. The parties agree that the district court was to reassess the Board's ultimate conclusion as to obviousness *de novo*, but they disagree over the degree of deference, if any, the district court was required to give to the Board's factual findings. Wang argues that under the Supreme Court's decision in *Dickinson v. Zurko*, 527 U.S. 150, 119 S.Ct. 1816, 144 L.Ed.2d 143 (1999), the district court was required to review the Board's factual findings only for substantial evidentiary support. In its decision, which issued before *Zurko* was decided, the district court applied the traditional clearly erroneous standard of review to the Board's findings of fact.<sup>3</sup> Winner argues first that the district court was entitled to conduct an entire trial *de novo*, and second, even if deference were required, that the district court properly reviewed the Board's factual findings for clear error because *Zurko* and the Administrative Procedure Act ("APA") standards of review do not apply as the Board proceeding is "subject to" a trial *de novo* in a district court.

Wu brought this action pursuant to 35 U.S.C. § 146, which allows a party to an interference dissatisfied with an adverse decision of the Board to file a complaint in a district court. Unlike a direct appeal to this court pursuant to 35 U.S.C. § 141, the parties before the district court are not limited to the evidentiary record before the Board:

In such suits the record in the Patent and Trademark Office shall be admitted on motion of either party . . . without prejudice to the right of the parties to take *further testimony*. The testimony and exhibits of the record in the Patent and Trademark Office when admitted

shall have the same effect as if originally taken and produced in the suit.

35 U.S.C. § 146 (emphasis added). Because the record before the district court may include the evidence before the Board as well as evidence that was not before the Board, we have often described the district court proceeding as "a hybrid of an appeal and a trial *de novo*." *Estee Lauder Inc. v. L'Oreal, S.A.*, 129 F.3d 588, 592, 44 USPQ2d 1610, 1612 (Fed.Cir.1997); see also *General Instrument Corp. v. Scientific-Atlanta, Inc.*, 995 F.2d 209, 212, 27 USPQ2d 1145, 1147 (Fed.Cir.1993) ("[A] party may proceed to a district court for a hybrid appeal/trial *de novo* proceeding in which the PTO record is admitted on motion of either party, but it may be supplemented by further testimony. 35 U.S.C. § 146."); *Case v. CPC Int'l, Inc.*, 730 F.2d 745, 752, 221 USPQ 196, 202 (Fed.Cir. 1984) ("[A]n action under 35 U.S.C. § 146 has the hybrid nature of an appeal and a trial *de novo*."). We have so stated even though section 146 uses neither the term "*de novo*," nor "appeal." See *Conservolite, Inc. v. Widmayer*, 21 F.3d 1098, 1102, 30 USPQ2d 1626, 1629 (Fed.Cir.1994).

The issue before us is whether the scope of the evidence admitted by the district court was sufficient to require a complete trial *de novo*, or whether the district court was instead required to give deference to some or all of the Board's findings of fact. Although our precedent makes clear that a *de novo* trial is appropriate in some circumstances in actions under both section 146 and the parallel provisions in 35 U.S.C. § 145, it does not make clear exactly what those circumstances are. The statutory provisions themselves offer little guidance—section 146 only refers to "further testimony" which may be offered in the district court, while section 145 is completely silent about evidence. See 35 U.S.C. § 146; 35 U.S.C. § 145. In *Zurko*, the Supreme Court, in passing, noted the settled law that in a section 145 action a disappointed applicant may present evi-

3. That standard of review was correct under

our case law at the time.

dence that it did not present to the Board, and that the "presence of such *new* or *different* evidence makes a factfinder of the district judge." 119 S.Ct. at 1824 (emphasis added). Interpreting both sections, we have referred to the ability to present "new testimony" or "proffered testimony" or "additional evidence." *Conservolite*, 21 F.3d at 1102, 30 USPQ2d at 1629 ("new testimony"); *Case*, 730 F.2d at 752, 221 USPQ at 202 (finding that section 146 "authorizes the district court to accept all proffered testimony on issues raised by the parties during the proceedings below or by the board's decision."); *Gould*, 822 F.2d at 1079, 3 USPQ2d at 1305 ("[A]dditional evidence is permitted in a civil action under section 145, allowing the district court to make *de novo* fact findings."); *Fregeau v. Mossinghoff*, 776 F.2d 1034, 1038, 227 USPQ 848, 851 (Fed.Cir.1985) (using "additional evidence" and "new evidence" interchangeably); cf. *Newman v. Quigg*, 877 F.2d 1575, 1579, 11 USPQ2d 1340, 1343 (Fed.Cir.1989) ("A district court action under 35 U.S.C. § 145 is a *de novo* determination of patentability. It is not limited to the record before the PTO."). It is not clear from these cases, however, when evidence is "new or different" or "additional" so that trial *de novo* is required.

Here, Winner introduced evidence on the issue of commercial success that was not before the Board, specifically a survey and a witness. Such documentary evidence and testimony are certainly "further testimony," as the Board had neither before it in any form. However, Winner also presented live testimony in the district court on each factual issue before the Board, namely the other three sets of underlying factual determinations typically at issue in an obviousness determination. See *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). Wang argues that this latter testimony was not adequate to trigger a *de novo* trial because it is the same or similar to testimony given by the same witnesses before the Board. We reject this argument.

In the context of a section 145 action, in which the Board has conducted an *ex parte* proceeding, we have noted that the admission of live testimony at trial requires the factfinder to make *its own* findings. See *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1584, 3 USPQ2d 1436, 1439 (Fed.Cir. 1987). The rationale is that the applicant was at least partly unable to present the live testimony in the *ex parte* proceeding before the Board. See *id.* In *Burlington Industries*, the Commissioner argued that "the district court cannot reach a different conclusion on the *same evidence* that was before the PTO." *Id.* (emphasis added). We rejected the Commissioner's argument. Although the import of the evidence before the Board and the district court might be the same in many or all ways, the *form* in which it is presented is fundamentally different. As we noted in *Burlington Industries*:

In its evaluation of the evidence on which this conclusion was based, the district court had a powerful advantage over the patent examiner and the Board, an advantage characteristic of section 145 appeals, in that the court *heard* and *saw witnesses*, testifying under examination and cross-examination, and had the benefit of extensive discussion and argument.

*Id.* at 1582, 3 USPQ2d at 1437-38 (emphasis added). The fact that the district court heard live testimony, gave more weight to some witnesses than to others, and came to a different conclusion than that reached by the Board, was not improper:

This trial before the district court partook of the quality that is available only with the examination and cross-examination of *live witnesses*. . . . If the evidence adduced before the district court led to a decision different from that reached by the PTO, that is not contrary to the legislative purpose of section 145 *de novo* review. Indeed, it is in fulfillment of that purpose.

*Id.* at 1584, 3 USPQ2d at 1439 (emphasis added). Thus, after a "full trial of the issues" the district court was free to come

to its own "independent conclusion," contrary to the argument by the Commissioner. *Id.*; see also *Gould*, 822 F.2d at 1079, 3 USPQ2d at 1305 ("[O]nce a full trial on the issue occurred . . . the district court reached a distinct and more informed conclusion. . .").

In the context of a section 146 action such as the instant case, in which the Board has conducted an *inter partes* interference proceeding, the matter is less clear because more evidentiary opportunities are available to parties in an interference than to an applicant in an *ex parte* examination and appeal to the Board. See *In re Epstein*, 32 F.3d 1559, 1565–66, 31 USPQ2d 1817, 1821 (Fed.Cir.1994) (noting lack of rules of evidence and inability to cross-examine witnesses in an *ex parte* proceeding). In an interference, unlike an *ex parte* proceeding, the Federal Rules of Evidence apply. See 37 C.F.R. § 1.671(b) (1998). In addition, both sides can submit testimony, initially in the form of affidavits, unless the testimony must be compelled. See 37 C.F.R. § 1.672. A party may "cross-examine" an affiant through oral deposition. See 37 C.F.R. § 1.672(d). Discovery, at least against the party opponent, is also available. See 37 C.F.R. § 1.687. However, although the parties "will be given an opportunity to appear before the Board to present oral argument at a final hearing," 37 C.F.R. § 1.654, at no point in the interference proceeding is a party allowed to present live testimony before the Board. The Board reviews testimony only in the form of affidavits and transcripts of depositions, and other facts in the form of responses to interrogatories and requests for admissions. See 37 C.F.R. §§ 1.653(a), 1.677(a). Thus, although the proceeding before the Board in an interference differs from that following

an *ex parte* examination, the two proceedings are the same in at least one important respect—in no case is live testimony given before the Board, which would allow the Board to observe demeanor, to hear the witnesses rebut one another's testimony in response to questioning from the parties and the judges, and thus to determine credibility. As we have stated before, because the district court may observe witnesses under examination and cross-examination it can have a "powerful advantage" over the Board which can never receive testimony in such a manner. *Burlington Indus.*, 822 F.2d at 1582, 3 USPQ2d at 1437.

[3] We hold that the admission of live testimony on all matters before the Board in a section 146 action, as in this case, makes a factfinder of the district court and requires a *de novo* trial.<sup>4</sup> Thus, although the live testimony before the district court might be the same or similar to testimony before the Board in the form of affidavits and deposition transcripts, a district court should still make *de novo* factual findings, while treating the record before the Board when offered by a party "as if [it was] originally taken and produced" in the district court. 35 U.S.C. § 146. Accordingly, because Winner submitted live testimony on all matters before the Board, the entire district court proceeding should have been a trial *de novo*, based both on the Board record and the district court evidence.<sup>5</sup>

Our holding comports with the notion that "[t]he credibility of the witnesses and the weight to be given to their testimony and the other evidence in the record . . . is a matter for the trier of facts." *Gyromat Corp. v. Champion Spark Plug Co.*, 735 F.2d 549, 552, 222 USPQ 4, 6 (Fed.Cir. 1984). Further, our holding also estab-

4. As this case involved further testimony relating to everything in issue before the Board, we express no opinion on whether testimony relating solely to some facts or issues results in other facts or issues being reviewed deferentially based solely on the fact findings of the Board. Indeed, we do not decide whether a given dispute could be parsed into discrete "issues" or facts so that such a determination

could be made, or if it could, how a court would draw the line between such facts or issues.

5. The trial court's failure to apply the *de novo* standard, if error, was harmless error, for surely the result would have been the same under non-deferential review.

lishes a clear rule that *live* testimony admitted on all matters that were before the Board triggers a *de novo* trial. If our holding were otherwise it might be difficult to administer. For example, if the test for determining whether *de novo* adjudication is appropriate were based on exactly what the witness said in the district court and whether it was truly "new or different" than what was disclosed in affidavits and deposition transcripts of the same or other witnesses before the Board, then the district court, and this court on appeal, would be required to search nearly line-by-line through the respective records as to each witness and issue to determine which standard applied. Aside from being difficult, such a test would provide scant guidance for a prospective litigant attempting to discern which standard would apply should it file a section 146 action.

## II.

### OBVIOUSNESS

#### A.

[4, 5] Obviousness is a question of law based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the prior art and the claimed invention; and (4) extent of any objective indicia of non-obviousness. See *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881, 45 USPQ2d 1977, 1981 (Fed. Cir.1998). The ultimate determination of obviousness by a district court is reviewed by this court *de novo* while the underlying factual inquiries are reviewed for clear error. See *Weatherchem Corp. v. J.L. Clark, Inc.*, 163 F.3d 1326, 1331, 49 USPQ2d 1001, 1006 (Fed.Cir.1998). We hold that

this is so as much in a section 146 action as on review of the judgment in an infringement suit.

[6, 7] The dispute here focuses on the combinability of the prior art. When an obviousness determination is based on multiple prior art references, there must be a showing of some "teaching, suggestion, or reason" to combine the references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed.Cir.1997) (also noting that the "absence of such a suggestion to combine is dispositive in an obviousness determination"). Whether motivation to combine the references was shown we hold a question of fact. See *In re Dembiczak*, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1617 (Fed.Cir.1999) ("[P]articular *factual* findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes . . .") (emphasis added); *Monarch Knitting*, 139 F.3d at 881-83, 886, 45 USPQ2d at 1982, 1985 (treating motivation to combine issue as part of the scope and content of the prior art and holding that genuine issues of *fact* existed as to whether one of ordinary skill in the art would have been motivated to combine the references in question).

[8, 9] Evidence of a suggestion, teaching, or motivation to combine prior art references may flow, *inter alia*, from the references themselves, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. See *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Although a reference need not expressly teach that the disclosure contained therein should be combined with another, see *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472, 43 USPQ2d 1481, 1489 (Fed.Cir.1997),<sup>6</sup> the showing of

6. Wang correctly points out that the district court misstated our case law on the test for the "motivation to combine" issue when it stated that "there must have been some *explicit* teaching or suggestion in the art to motivate one of even ordinary skill to combine such elements so as to create the same invention." *Winner*, 11 F.Supp.2d at 24, 48 USPQ2d at 1144 (emphasis added). However,

this misstatement could not have affected its analysis because its finding of a lack of a motivation to combine was based on "teaching away" and the nature of the problem confronting one of ordinary skill in the art, not what a reference failed to explicitly disclose. The district court also stated the law on this issue correctly in other portions of the opinion, so this one isolated misstatement

combinability, in whatever form, must nevertheless be "clear and particular." *Dem-biczak*, 175 F.3d at 999, 50 USPQ2d at 1617.

### B.

[10] Like the district court's opinion, the arguments of both parties on appeal focus on whether one of ordinary skill would have been motivated to combine the four references. The key references at issue were Johnson, which discloses virtually all aspects of the invention claimed in the '047 patent except ratcheting, and Moore, which did disclose a self-locking ratcheting mechanism.<sup>7</sup> If there was no motivation or suggestion to combine Johnson with the ratcheting mechanism of Moore, one of ordinary skill in the art would not have viewed the invention of the '047 patent as obvious. *See In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed.Cir.1998); *Gambro Lundia AB*, 110 F.3d at 1579, 42 USPQ2d at 1383 ("The absence of such a suggestion to combine is dispositive in an obviousness determination.").

Wang argues that the prior art should be combinable merely because the Board properly found that the relevant field was very broad and included lock design art in general, and all of the prior art here was clearly within that field. Wang further argues that Moore is combinable with Johnson because they both deal with locking-steering wheels, even though Moore's ratcheting mechanism is possibly not as strong or as tamper resistant as the dead-

hardly shows that the district court misunderstood the law.

7. WuROC, which disclosed a chamber capable of accepting either a dead-bolt or a ratcheting mechanism, may have informed one of ordinary skill in the art that both mechanisms would work, but it did not specifically disclose any such mechanisms and did not suggest that one should be replaced with the other. Grimaldi disclosed a rod and pawl design that was an anti-theft device attached to the clutch rather than a steering wheel. The district court did not clearly err in finding that "WuROC and Grimaldi, in and of themselves would certainly not provide much

bolt mechanism of Johnson, partly because the grooves of the ratcheting mechanism are at least somewhat exposed.

[11] The district court found that there was no motivation to combine Johnson with the ratcheting mechanism of Moore because (1) there was no apparent disadvantage to the dead-bolt mechanism of Johnson, and therefore the motivation to combine would not stem from the "nature of the problem" facing one of ordinary skill in the art, because no "problem" was perceived; and (2) Johnson's written description taught away from the use of Moore. *See Winner*, 11 F.Supp.2d at 23, 48 USPQ2d at 1143-44. "What a reference teaches and whether it teaches toward or away from the claimed invention are questions of fact." *In re Bell*, 991 F.2d at 784, 26 USPQ2d at 1531.

First, although there was conflicting evidence before the district court on whether one would see the trade-off between using a dead-bolt and using a ratcheting mechanism and conclude that the more secure dead-bolt should be replaced with the more convenient ratcheting mechanism, the district court did not clearly err in finding that one of ordinary skill in the art would not have reasonably elected trading the benefit of security for that of convenience. Trade-offs often concern what is feasible, not what is, on balance, desirable. Motivation to combine requires the latter.<sup>8</sup>

[12] Second, if Johnson did in fact teach away from Moore, then that finding

guidance as to how to construct the Wu '047 device" and that if Johnson was not combined "with some form of a ratchet mechanism, then the fact that Wu '047 may have borrowed some elements from WuROC and Grimaldi becomes irrelevant." *Winner*, 11 F.Supp.2d at 24, 48 USPQ2d at 1144.

8. The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.

alone can defeat Wang's obviousness claim. See *Gambro Lundia AB*, 110 F.3d at 1579, 42 USPQ2d at 1383. A "reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed.Cir.1994).

The passage of Johnson relied on by the district court and Winner includes the following:

Another problem with such devices is that they appear susceptible to being overcome by physical force or manipulation. The locking mechanisms of [Moore] and Mitchell et al U.S. Pat. No. 4,103,524 are exposed, and include pry points thereabout in which a crowbar may be inserted in an attempt to overcome such mechanism. Irrespective of whether such device can be overcome by physical manipulation, they present prospective thieves with the appearance of being breakable.

Johnson, col. 1, lines 38-48. Because the Mitchell reference cited in the quote above actually does *not* utilize a ratcheting mechanism, Wang argues that Johnson does not teach away from using ratcheting mechanisms; rather, it was merely distinguishing prior art devices on the basis that unlike Johnson they had *exposed* mechanisms. However, that fact does not undermine the district court's finding that Johnson did teach away from the ratcheting mechanism of Moore which does have exposed grooves. While we regard this as a close factual issue, we hold that the district court did not clearly err in finding that Johnson taught away from Moore, and therefore was not shown to be combinable with Moore. Because the district court did not clearly err in finding that one of ordinary skill would not be motivated to combine Johnson and Moore, the district court correctly concluded that Wang did not establish a prima facie case of obviousness by clear and convincing evidence. See *In re Dance*, 160 F.3d at 1343, 48 USPQ2d at 1637.

[13] If Wang had succeeded in establishing a prima facie case of obviousness based on the first three obviousness factors, the burden of production would have shifted to Winner. See *In re Huang*, 100 F.3d 135, 139, 40 USPQ2d 1685, 1689 (Fed. Cir.1996); *Burlington Indus.*, 822 F.2d at 1582-83, 3 USPQ2d at 1437-38 (reviewing a section 145 decision and holding that district court correctly concluded that applicant had successfully rebutted Commissioner's prima facie case of obviousness). Relevant to that inquiry would have been such objective indicia of non-obviousness as the evidence of commercial success submitted by Winner. See *id.* Because Wang failed to establish a prima facie case of obviousness, however, Winner was not required to establish commercial success. Thus, we need not review the district court's finding that commercial success was established.

[14] Assuming, *arguendo*, prima facie proof of obviousness, we do not believe the district court clearly erred in finding commercial success or that it erred in concluding that it overcame the other *Graham* factors. It is presumed that Winner established a nexus between its commercial sales of the Super Club, the Club GL and Ultra Club and the patented features because they embody the disclosure of the '047 improvement patent. *J.T. Eaton & Co. v. Atlantic Paste & Glue Co.*, 106 F.3d 1563, 1571, 41 USPQ2d 1641, 1647 (Fed.Cir.1997) ("When a patentee can demonstrate commercial success, usually shown by significant sales in a relevant market, and that the successful product is the invention disclosed and claimed in the patent, it is presumed that the commercial success is due to the patented invention."). Moreover, the survey introduced at the district court by Winner established that a statistically significant percentage of customers viewed the self-locking ratcheting mechanism of the '047 patent as being of more value to them, and reported that the self-locking ratchet was the very reason they purchased the device, as opposed to

those requiring key-locking, and was the reason they were willing to pay more for such a lock than for one without it, such as the original Club. When such evidence was introduced, it became Wang's burden to show that it should not be given weight. *See id.* ("If a patentee makes the requisite showing of nexus between commercial success and the patented invention, the burden shifts to the challenger to prove that the commercial success is instead due to other factors extraneous to the patented invention, such as advertising or superior workmanship."); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1394, 7 USPQ2d 1222, 1227 (Fed.Cir.1988) ("A patentee is not required to prove as part of its prima facie case that the commercial success of the patented invention is not due to factors other than the patented invention."). Given the evidence before the district court, it did not clearly err in finding that the survey showed the nexus between the patented features, especially the keyless self-locking ratcheting mechanism, of the Super Club line of products and the reasons the consumers bought the products. Nor did Wang's evidence overcome the proof of nexus.

### III.

#### EVIDENTIARY ISSUES

[15] A district court's decision to admit or exclude evidence at trial is reviewed for abuse of discretion. *See Conservolite*, 21 F.3d at 1103, 30 USPQ2d at 1630 (Fed.Cir. 1994). Wang argues that the district court abused its discretion by allowing Winner to present (1) late-disclosed witnesses and (2) documents and testimony pertaining to the nexus required to show commercial success, namely a survey and foundational witnesses for the survey. Wang admits that the commercial success issue was raised before the Board but argues that the subsidiary nexus issue was not, and therefore Winner could not raise the issue before the district court, as it must be deemed waived.

Winner points out that Wang never even identifies which witnesses should not have

been allowed to testify as "late-disclosed." With respect to the evidence of commercial success, Winner argues that the nexus evidence was clearly admissible because commercial success was at issue before the Board and, therefore by implication, the nexus issue was as well.

[16] We agree with Winner that the district court did not abuse its discretion in allowing allegedly late-disclosed witnesses to testify. Such witnesses were never even identified by Wang in his opening brief, and, after Winner pointed this out in its response brief, Wang still failed to identify the witnesses in his reply brief. Under such circumstances, we will not search the record on the chance of discovering which witnesses Wang was complaining of and then determine whether the district court abused its discretion. Thus, whichever witnesses Wang was alluding to, admission of their testimony cannot be said to be an abuse of discretion based on the vague arguments made by Wang on appeal.

[17] We also agree with Winner that the district court did not abuse its discretion in admitting the new testimony and survey report regarding the nexus between commercial success and the patentably distinct feature of the claimed invention. Wang's argument, based on a distinction between the issues of commercial success and nexus, is flawed. The evidence showing a nexus between large sales and the patentable features of the invention of the '047 improvement patent is at least *relevant* to the issue of commercial success before the Board. *See Estee Lauder*, 129 F.3d at 592, 44 USPQ2d at 1613 ("[D]istrict court did not abuse its discretion in allowing Estee Lauder to introduce evidence of the [tests not before the Board] insofar as this evidence was *relevant* to its reduction to practice." (emphasis added)). Indeed, establishing such a nexus is required in order to establish commercial success. *See Gambro Lundia*, 110 F.3d at 1579, 42 USPQ2d at 1384 ("Of course,

the record must show a sufficient nexus between this commercial success and the patented invention"). Thus, here raising the commercial success issue necessarily raised the nexus issue as well. Accordingly, the district court did not abuse its discretion by admitting the testimony and documents relating to the nexus required to show commercial success.

#### IV.

##### MOTION TO TRANSFER

[18] A district court may transfer an action to another district court for the "convenience of parties and witnesses, in the interest of justice." 28 U.S.C. § 1404(a) (1994). Our review of the district court's denial of Wang's motion to transfer, as a procedural matter, is governed by the law of the regional circuit in which it sits, here the United States Court of Appeals for the District of Columbia Circuit. See *Stewart Org., Inc. v. Ricoh Corp.*, 487 U.S. 22, 32, 108 S.Ct. 2239, 101 L.Ed.2d 22 (1988) (classifying section 1404(a) as a procedural rule); *Regents of the Univ. of Cal. v. Eli Lilly and Co.*, 119 F.3d 1559, 1565, 43 USPQ2d 1398, 1403 (Fed.Cir.1997) (applying regional circuit law). In that circuit, the burden of persuasion on the transfer issue was on Wang, and the district court's denial of Wang's motion is reviewed for an abuse of discretion. See *Securities and Exchange Comm'n v. Savoy Indus., Inc.*, 587 F.2d 1149, 1154 (D.C.Cir.1978).

[19] Wang argues that the district court should have granted his motion to transfer this action to the District Court for the Central District of California, where several other cases have been stayed pending the outcome of the interference and this action because to do so would be convenient to the parties and in the interests of justice. Winner argues, however, that it was just as convenient for the parties to litigate in Washington, D.C. as in California, and that the interests of justice actually favored litigation in Washington, D.C. because this aspect of the litigation will be resolved years before it

would have been if the motion to transfer were granted.

We discern no abuse of discretion in the district court's denial of Wang's motion to transfer. Even though there are several related pending cases in the Central District of California, it is not clear that it would be a more convenient location for the parties to litigate. Persons scheduled to testify at trial for the parties lived in Pennsylvania; the experts lived in Connecticut, Virginia, and California; and the attorneys were from Virginia and New York. With parties, witnesses, and attorneys coming from such varied locations, several of which are closer to Washington, D.C. than California, it could not easily be said that it would be more convenient to try the case in the Central District of California. In addition, the interests of judicial economy were well served because the section 146 action was tried and result obtained in just six months after the motion to transfer was denied—presumably much more quickly than would have been the case if this action were transferred to the Central District of California where several other cases were pending. See *Savoy Indus.*, 587 F.2d at 1156 (considering the delay that would have been encountered if the motion to transfer were granted as a factor weighing in favor of denying the motion). Under such circumstances, the district court did not abuse its discretion in denying Wang's motion to transfer.

#### V.

##### CONCLUSION

The district court did not clearly err in its findings of fact with respect to its obviousness analysis and did not err in concluding that the invention of the '047 patent would not have been obvious. In addition, the district court did not abuse its discretion in admitting testimony and documents or in refusing to transfer the

case. Accordingly, the judgment of the district court is

**AFFIRMED.**



**AUTOMATED BUSINESS  
COMPANIES, INC.,  
Plaintiff-Appellant,**

**v.**

**NEC AMERICA, INC., Defendant-  
Appellee,  
and**

**Tandy Corporation, Defendant.**

**No. 99-1316.**

United States Court of Appeals,  
Federal Circuit.

Jan. 28, 2000.

After summary judgment of non-infringement was granted in patent infringement action, defendant moved for sanctions against plaintiff patentee. The United States District Court for the Northern District of Texas, John H. McBryde, J., awarded attorney fees to defendant, and patentee appealed. The Court of Appeals, Plager, Circuit Judge, held that award of attorney fees could include amount of fees incurred by defendant's grandparent company, which assisted in the defense.

**Affirmed.**

**1. Patents  $\Rightarrow$  324.54, 325.11(2.1)**

The methodology of assessing a reasonable award of attorney fees under the patent statute is within the discretion of the district court, and to show that the district court abused its discretion, a party must convince the Court of Appeals that the district court based its award on clearly erroneous factual findings, legal error, or a manifest error of judgment. 35 U.S.C.A. § 285.

**2. Patents  $\Rightarrow$  325.11(4)**

Provision of patent statute permitting award of attorney fees in exceptional cases serves as a deterrent to improper bringing of clearly unwarranted suits for patent infringement. 35 U.S.C.A. § 285.

**3. Patents  $\Rightarrow$  325.11(4)**

Award of attorney fees to prevailing defendant in patent infringement action could include amount of fees incurred by defendant's grandparent company, where, even if grandparent company did not assume control of the case, grandparent company paid for legal fees associated with defending the action and participated in settlement meeting. 35 U.S.C.A. § 285.

**4. Patents  $\Rightarrow$  325.11(2.1)**

In determining the compensatory quantum of an award of attorney fees under the patent statute in an egregious case, courts should not be limited to reimbursement of only those amounts actually paid by the injured named party. 35 U.S.C.A. § 285.

David Fink, of Houston, Texas, argued for plaintiff-appellant. With him on the brief was Timothy W. Johnson.

Kathi A. Cover, Sidley & Austin, of Dallas, Texas, argued for defendant-appellee. With her on the brief was Dale B. Nixon.

Before MICHEL, PLAGER, and BRYSON, Circuit Judges.

PLAGER, Circuit Judge.

Automated Business Companies, Inc. ("ABC") sued NEC America, Inc. ("NEC America") for patent infringement in the United States District Court for the Northern District of Texas. After summary judgment of non-infringement was granted, NEC America moved to sanction ABC. The district court awarded attorney fees to NEC America pursuant to 35 U.S.C. § 285. *See Automated Bus. Co. v. NEC Am., Inc.*, No. 4:98-CV-619-A (N.D.Tex. Feb. 8, 1999). ABC appeals

*chaft Kohle, M.B.H. v. Shell Oil Co.*, 112 F.3d 1561, 1564, 42 USPQ2d 1674, 1677 (Fed.Cir.1997). Zebco posits that if the '835 patent is not entitled to the June 1990 filing date of the '586 application, then the invention of the '835 patent was on-sale or in public use more than one year before the July 1992 filing date of the '254 application, which matured into the '835 patent.<sup>2</sup> However, Zebco does not contend that the applicant impermissibly added new matter to the '254 application. Cf. 35 U.S.C. § 132 (1994) ("No amendment shall introduce new matter into the disclosure of the invention."). Further, there is no dispute that the disclosures of the '586 and '254 applications—and thus the '324 and '835 patents, respectively—are the same in all but a few respects.<sup>3</sup> Zebco's position thus reduces to the argument that the claims of the '835 patent violate the written description requirement of section 112, ¶ 1. But to state the argument is to realize its objection; as we discussed above, the written description of the '835 patent provides ample support for the ordinary and accustomed meaning of the terms of the '835 claims. Thus, the '835 claims, as construed by the district court and this court, are entitled to the benefit of the filing date of the '586 application. No violation of section 102(b)'s on-sale bar has occurred.

#### IV

Zebco has failed to demonstrate to this court that the disputed claim terms of claim 1 of the '835 patent should be interpreted in a way other than their ordinary and accustomed meaning. Therefore, we find that the district court's claim interpretation, and the summary judgment of infringement conditioned thereon, was not erroneous. We also hold that the district court correctly determined that the relevant claim of the '835 patent, as construed,

2. Johnson does not dispute that products embodying the '835 invention were on sale more than one year prior to the filing of the '254 application in July 1992.

is not invalid. The judgment of the district court is affirmed.

**AFFIRMED.**



**In re Anita DEMBICZAK and Benson  
Zinbarg, Appellants.**

**No. 98-1498.**

United States Court of Appeals,  
Federal Circuit.

April 28, 1999.

Board of Patent Appeals and Interferences upheld rejection of application for utility patent, and appeal was taken. The United States Court of Appeals for the Federal Circuit, Cleverger, Circuit Judge, held that: (1) Board erred by rejecting application for patent on plastic trash bags with pumpkin face on grounds of obviousness, without finding suggestion, teaching, or motivation to combine prior art references, and (2) applicant's earlier design patents involving pumpkin faces on bags did not preclude issuance of patent in present case, under obviousness-type double patenting doctrine.

Reversed.

#### 1. Patents ⇐ 113(6)

Federal Circuit determines legal question of obviousness of patent without deference to Board of Patent Appeals and Interferences, and examines any factual findings for clear error. 35 U.S.C.A. § 103(a).

3. The titles and abstracts are different, for example.

**2. Patents ⇐16(1)**

Measuring a claimed invention for obviousness requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. 35 U.S.C.A. § 103(a).

**3. Patents ⇐16(4)**

Best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis of a patent application is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. 35 U.S.C.A. § 103(a).

**4. Patents ⇐26(1)**

Evidence of a suggestion, teaching, or motivation to combine prior art references, sufficient to render invention obvious and unpatentable, may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. 35 U.S.C.A. § 103(a).

**5. Patents ⇐36(1)**

Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence sufficient to render invention obvious and unpatentable. 35 U.S.C.A. § 103(a).

**6. Patents ⇐16.27**

Board of Patent Appeals and Interferences erred by denying for obviousness application for utility patent for orange colored plastic trash bag with markings, which expanded to show face of pumpkin when filled with leaves, when Board cited prior art showing placement of pumpkin faces on crepe paper and which disclosed features of plastic trash bags and concluded that prior art references collectively described all limitations of present claims; Board should have found a suggestion, teaching, or motivation to combine prior art references. 35 U.S.C.A. § 103(a).

**7. Patents ⇐113(6)**

Federal Circuit would not consider argument made in support of obviousness of patent application, which was not raised before Board of Patent Appeals and Interferences. 35 U.S.C.A. § 103(a).

**8. Patents ⇐120**

The doctrine of "obviousness-type double patenting" prohibits claims in a second patent which define merely an obvious variation of an invention claimed by the same inventor in an earlier patent. 35 U.S.C.A. § 103(a).

See publication Words and Phrases for other judicial constructions and definitions.

**9. Patents ⇐314(5)**

Question whether patent application is to be rejected, under obvious-type double patenting doctrine, on grounds that claimed invention was merely an obvious variation on invention disclosed in existing patent, is one of law, which Federal Circuit reviews de novo. 35 U.S.C.A. § 103(a).

**10. Patents ⇐120**

In some very rare cases, obvious-type double patenting, in which invention claimed in patent application was obvious variation on invention disclosed by existing patent, may be found between design and utility patents. 35 U.S.C.A. § 103(a).

**11. Patents ⇐120**

When utility patent is sought to be invalidated due to obviousness, in light of previous design patents, rejection under obviousness-type double patenting doctrine is appropriate only if the claims of the two patents cross-read, meaning that the test is whether the subject matter of the claims of the patent sought to be invalidated would have been obvious from the subject matter of the claims of the other patent, and vice versa. 35 U.S.C.A. § 103(a).

**12. Patents ⇐28**

In order for a design to be unpatentable because of obviousness, there must first be a basic design reference in the

prior art, the design characteristics of which are basically the same as the claimed design. 35 U.S.C.A. § 103(a).

### 13. Patents $\approx$ 120

Phrase "having facial indicia thereon," contained in claim of application for utility patent on plastic trash bag with pumpkin face, was not design reference that was basically the same as claimed design covered by design patents on jack-o-lantern faces on bags, and application was consequently not required to be rejected under obviousness-type double patenting doctrine. 35 U.S.C.A. § 103(a).

David P. Gordon, of Stamford, Connecticut, argued for appellant. Of counsel was Thomas A. Gallagher, of Stamford, Connecticut.

John M. Whealan, Associate Solicitor, Office of the Solicitor, of Arlington, Virginia, argued for appellee. With him on the brief were Albin F. Drost, Acting Solicitor, and David R. Nicholson, Associate Solicitor.

Before MAYER, Chief Judge, MICHEL and CLEVENGER, Circuit Judges.

CLEVENGER, Circuit Judge.

Anita Dembiczak and Benson Zinbarg appeal the rejection, upheld by the Board of Patent Appeals and Interferences, of all pending claims in their Application No. 08/427,732. *See Ex Parte Dembiczak*, No. 96-2648, slip op. at 43 (May 14, 1998). Because the Board erred in sustaining rejections of the pending claims as obvious under 35 U.S.C. § 103(a) (Supp.1998), and for obviousness-type double patenting, we reverse.

## I

The invention at issue in this case is, generally speaking, a large trash bag made of orange plastic and decorated with lines and facial features, allowing the bag, when filled with trash or leaves, to resemble a Halloween-style pumpkin, or jack-o'-lan-

tern. As the inventors, Anita Dembiczak and Benson Zinbarg (collectively, "Dembiczak") note, the invention solves the long-standing problem of unsightly trash bags placed on the curbs of America, and, by fortuitous happenstance, allows users to express their whimsical or festive nature while properly storing garbage, leaves, or other household debris awaiting collection. Embodiments of the invention—sold under a variety of names, including Giant Stuff-A-Pumpkin, Funkins, Jack Sak, and Bag-O-Fun—have undisputedly been well-received by consumers, who bought more than seven million units in 1990 alone. Indeed, in 1990, the popularity of the pumpkin bags engendered a rash of thefts around Houston, Texas, leading some owners to resort to preventative measures, such as greasing the bags with petroleum jelly and tying them to trees. *See R. Piller, "Halloween Hopes Die on the Vine," Hous. Chron.*, Oct. 19, 1990, at 13A.

The road to profits has proved much easier than the path to patentability, however. In July 1989, Dembiczak filed a utility patent application generally directed to the pumpkin bags. In a February 1992 appeal, the Board of Patent Appeals and Interferences ("the Board") reversed the Examiner's rejection, but entered new grounds for rejection. Dembiczak elected to continue prosecution, filing a continuation application to address the new grounds for rejection. Thereafter, the invention made a second appearance before the Board, in April 1993, when the Board both sustained the Examiner's rejection and again entered new grounds for rejection. Again, a continuation application was filed (the instant application). And again the Examiner's rejection was appealed to the Board, which sustained the rejection in a May 14, 1998, decision. *See Dembiczak*, slip op. at 43.

## A

The patent application at issue includes claims directed to various embodiments of

the pumpkin bag. Claims 37, 49, 51, 52, 58 through 64, 66 through 69, and 72 through 81 are at issue in this appeal. Though the claims vary, independent claim 74 is perhaps most representative:

74. A decorative bag for use by a user with trash filling material, the bag simulating the general outer appearance of an outer surface of a pumpkin having facial indicia thereon, comprising:

a flexible waterproof plastic trash or leaf bag having

an outer surface which is premanufactured orange in color for the user to simulate the general appearance of the outer skin of a pumpkin, and having

facial indicia including at least two of an eye, a nose and a mouth on the orange color outer surface for forming a face pattern on said orange color outer surface to simulate the general outer appearance of a decorative pumpkin with a face thereon,

said trash or leaf bag having first and second opposite ends, at least said second end having an opening extending substantially across the full width of said trash or leaf bag for receiving the trash filling material,

wherein when said trash or leaf bag is filled with trash filling material and closed, said trash or leaf bag takes the form and general appearance of a pumpkin with a face thereon.

All of the independent claims on appeal, namely 37, 52, 72, and 74, contain limitations that the bag must be "premanufactured orange in color," have "facial indicia," have openings suitable for filling with trash material, and that when filled, the bag must have a generally rounded appearance, like a pumpkin. Independent claims 37, 52, and 72 add the limitation that the bag's height must at least 36 inches. Claim 72 requires that the bag be made of a "weatherproof material," and claim 74, as shown above, requires that the bag be "waterproof." Claim 52 recites a

"method of assembling" a bag with the general characteristics of apparatus claim 37.

## B

The prior art cited by the Board includes:

- (1) pages 24-25 of a book entitled "A Handbook for Teachers of Elementary Art," by Holiday Art Activities ("Holiday"), describing how to teach children to make a "Crepe Paper Jack-O-Lantern" out of a strip of orange crepe paper, construction paper cut-outs in the shape of facial features, and "wadded newspapers" as filling;
- (2) page 73 of a book entitled "The Everything Book for Teachers of Young Children," by Martha Shapiro and Valerie Indenbaum ("Shapiro"), describing a method of making a "paper bag pumpkin" by stuffing a bag with newspapers, painting it orange, and then painting on facial features with black paint;
- (3) U.S. Patent No. 3,349,991 to Leonard Kessler, entitled "Flexible Container" ("Kessler"), describing a bag apparatus wherein the bag closure is accomplished by the use of folds or gussets in the bag material;
- (4) U.S. Patent No. Des. 310,023, issued August 21, 1990 to Dembiczak ("Dembiczak '023"), a design patent depicting a bag with a jack-o'-lantern face;
- (5) U.S. Patent No. Des. 317,254, issued June 4, 1991 to Dembiczak ("Dembiczak '254"), a design patent depicting a bag with a jack-o'-lantern face; and,
- (6) Prior art "conventional" plastic lawn or trash bags ("the conventional trash bags").

Using this art, the Board affirmed the Examiner's final rejection of all the independent claims (37, 52, 72, 74) under 35

U.S.C. § 103, holding that they would have been obvious in light of the conventional trash bags in view of the Holiday and Shapiro references. The Board determined that, in its view of the prior art, "the only difference between the invention presently defined in the independent claims on appeal and the orange plastic trash bags of the prior art and the use of such bags resides in the application of the facial indicia to the outer surface of the bag." *Dembiczak*, slip op. at 18. The Board further held that the missing facial indicia elements were provided by the Holiday and Shapiro references' description of painting jack-o'-lantern faces on paper bags. *See id.* at 18-19. Dependent claims 49 and 79, which include a "gussets" limitation, were considered obvious under similar reasoning, except that the references cited against them included Kessler. *See id.* at 7.

The Board also affirmed the Examiner's obviousness-type double patenting rejection of all the independent claims in light of the two *Dembiczak* design patents ('023 and '254) and Holiday. *See id.* at 12. The Board held that the design patents depict a generally rounded bag with jack-o'-lantern facial indicia, and that the Holiday reference supplies the missing limitations, such as the "thin, flexible material" of manufacture, the orange color, the initially-open upper end, and the trash filling material. The Board also stated that the various limitations of the dependent claims—*e.g.*, color, the inclusion of leaves as stuffing, and the dimensions—would all be obvious variations of the depictions in the *Dembiczak* design patents. *See id.* at 8-9. In addition, using a two-way test for obviousness-type double patenting, the Board held that the claims of the *Dembiczak* design patents "do not exclude" the additional structural limitations of the pending utility claims, and thus the design patents were merely obvious variations of the subject matter disclosed in the utility claims. *See id.* at 11. The Board further upheld, on similar grounds and with the inclusion of the Kessler reference, the ob-

viousness-type double patenting rejection of dependent claim 49. *See id.* at 12.

This appeal followed, vesting this court with jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A) (1994).

## II

[1] A claimed invention is unpatentable if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (Supp.1998); *see Graham v. John Deere Co.*, 383 U.S. 1, 14, 86 S.Ct. 684, 15 L.Ed.2d 545, 148 USPQ 459, 465 (1966). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *See Graham*, 383 U.S. at 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545, 148 USPQ at 467; *Miles Labs., Inc. v. Shandon Inc.*, 997 F.2d 870, 877, 27 USPQ2d 1123, 1128 (Fed.Cir.1993). We therefore review the ultimate determination of obviousness without deference to the Board, while examining any factual findings for clear error. *See, e.g., In re Zurko*, 142 F.3d 1447, 1459, 46 USPQ2d 1691, 1700 (Fed.Cir.) (en banc), cert. granted, — U.S. —, 119 S.Ct. 401, 142 L.Ed.2d 326 (1998).

## A

[2] Our analysis begins in the text of section 103 quoted above, with the phrase "at the time the invention was made." For it is this phrase that guards against entry into the "tempting but forbidden zone of hindsight," *see Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873, 228 USPQ 90, 98 (Fed.Cir.1985), overruled on other grounds by *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 46 USPQ2d

1097 (Fed.Cir.1998), when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. *See, e.g., W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed.Cir.1983). Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *Id.*

[3] Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed.Cir.1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed.Cir.1998) ("the Board must identify specifically ... the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed.Cir.1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed.Cir.1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed.

Cir.1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination"). *See also Graham*, 383 U.S. at 18, 86 S.Ct. 684, 15 L.Ed.2d 545, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight. *See, e.g., Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed.Cir.1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."). In this case, the Board fell into the hindsight trap.

[4, 5] We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, *see Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed.Cir.1996), *Para-Ordnance Mfg. v. SGS Importers Intern., Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed.Cir.1995), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. *See, e.g., C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." *E.g., McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed.Cir.1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of

material fact.”); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977) (“The examiner’s conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection.”). In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explication of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal. Here, however, the Board did not make particular findings regarding the locus of the suggestion, teaching, or motivation to combine the prior art references.

[6] All the obviousness rejections affirmed by the Board resulted from a combination of prior art references, e.g., the conventional trash or yard bags, and the Holiday and Shapiro publications teaching the construction of decorated paper bags. See *Dembiczak*, slip op. at 6–7. To justify this combination, the Board simply stated that “the Holiday and Shapiro references would have suggested the application of . . . facial indicia to the prior art plastic trash bags.” *Id.* at 18–19. However, rather than pointing to specific information in Holiday or Shapiro that suggest the combination with the conventional bags, the Board instead described in detail the similarities between the Holiday and Shapiro references and the claimed invention, noting that one reference or the other—in combination with each other and the conventional trash bags—described all of the limitations of the pending claims. See *id.* at 18–28. Nowhere does the Board particularly identify any suggestion, teaching, or motivation to combine the children’s art references (Holiday and Shapiro) with the conventional trash or lawn bag references, nor does the Board make specific—or even inferential—findings concerning the identi-

fication of the relevant art, the level of ordinary skill in the art, the nature of the problem to be solved, or any other factual findings that might serve to support a proper obviousness analysis. See, e.g., *Pro-Mold & Tool*, 75 F.3d at 1573, 37 USPQ2d at 1630.

To the contrary, the obviousness analysis in the Board’s decision is limited to a discussion of the ways that the multiple prior art references can be combined to read on the claimed invention. For example, the Board finds that the Holiday bag reference depicts a “premanufactured orange” bag material, see *Dembiczak*, slip op. at 21, finds that Shapiro teaches the use of paper bags in various sizes, including “large”, see *id.* at 22–23, and concludes that the substitution of orange plastic for the crepe paper of Holiday and the paper bags of Shapiro would be an obvious design choice, see *id.* at 24. Yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention. See *Rouffet*, 149 F.3d at 1357, 47 USPQ2d at 1459 (noting Board’s failure to explain, when analyzing the prior art, “what specific understanding or technical principle . . . would have suggested the combination”). Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to combine the prior art references cited against the pending claims, the Board’s conclusion of obviousness, as a matter of law, cannot stand. See *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232; *Rouffet*, 149 F.3d at 1359, 47 USPQ2d at 1459; *Fritch*, 972 F.2d at 1265, 23 USPQ2d at 1783; *Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600; *Ashland Oil*, 776 F.2d at 297, 227 USPQ at 667.

## B

[7] The Commissioner of Patents and Trademarks (“Commissioner”) attempts to justify the Board’s decision on grounds

different from that relied upon by the Board, arguing that one of ordinary skill in the art would have been motivated to combine the references. Of course, in order to do so, the Commissioner must do what the Board did not do below: make specific findings of fact regarding the level of skill in the art ("a designer and manufacturer of trash and leaf bags, particularly one specializing in the ornamental and graphic design of such bags"), Resp't Br. at 14, the relationship between the fields of conventional trash bags and children's crafts, respectively ("[t]he artisan would also have been well aware of the ancillary, corollary, and atypical uses of 'trash' bags such as their application in hobby and art projects"), Resp't Br. at 15, and the particular features of the prior art references that would motivate one of ordinary skill in a particular art to select elements disclosed in references from a wholly different field ("a designer and manufacturer of trash and leaf bags would have recognized the paper bag in Shapiro to be a trash bag and therefore would have been motivated to combine it with the admitted prior art plastic trash and leaf bags to arrive at the claimed invention"), Resp't Br. at 15. The Commissioner also appears to cite additional references in support of his obviousness analysis, noting that at least two design patents (in the record but not cited against the presently pending claims) teach the placement of "graphical information, including text, designs, and even facial indicia, to colored bags." Resp't Br. at 16. This new analysis, apparently cut from whole cloth in view of appeal, does little more than highlight the shortcomings of the decision below, and we decline to consider it. See, e.g., *In re Robertson*, 169 F.3d 743, 746, 49 USPQ2d 1949, 1951 (Fed. Cir.1999) ("We decline to consider [the Commissioner's] newly-minted theory as an alternative ground for upholding the agency's decision."); *In re Soni*, 54 F.3d 746, 751, 34 USPQ2d 1684, 1688 (Fed.Cir. 1995); *In re Hounsfield*, 699 F.2d 1320, 1324, 216 USPQ 1045, 1049 (Fed.Cir.1983) (rejecting an "attempt[ ] by the Commis-

sioner 'to apply a new rationale to support the rejection.'"); see also 35 U.S.C. § 144 (1994) (an appeal to the Federal Circuit "is taken on the record before The Patent and Trademark Office"). Because the Board has not established a prima facie case of obviousness, see *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed.Cir.1993) ("The PTO bears the burden of establishing a case of prima facie obviousness."), we therefore reverse the obviousness rejections, and have no need to address the parties' arguments with respect to secondary factors.

### III

[8, 9] Dembiczak also asks this court to reverse the Board's rejection of the pending claims for obviousness-type double patenting, which is a judicially-created doctrine that seeks to prevent the applicant from expanding the grant of the patent right beyond the limits prescribed in Title 35. See, e.g., *In re Braat*, 937 F.2d 589, 592, 19 USPQ2d 1289, 1291-92 (Fed.Cir. 1991); *In re Longi*, 759 F.2d 887, 892, 225 USPQ 645, 648 (Fed.Cir.1985). See also 35 U.S.C. § 154(a)(2) (Supp.1998) (discussing patent term). The doctrine prohibits claims in a second patent which define "merely an obvious variation" of an invention claimed by the same inventor in an earlier patent. *Braat*, 937 F.2d at 592, 19 USPQ2d at 1292 (quoting *In re Vogel*, 57 C.C.P.A. 920, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970)). Thus, unless a claim sought in the later patent is patentably distinct from the claims in an earlier patent, the claim must be rejected. See *In re Goodman*, 11 F.3d 1046, 1052, 29 USPQ2d 2010, 2015 (Fed.Cir.1993); *Vogel*, 422 F.2d at 441, 164 USPQ at 622. This question is one of law, which we review de novo. See *Goodman*, 11 F.3d at 1052, 29 USPQ2d at 2015; *Texas Instruments Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed.Cir.1993).

## A

[10, 11] The law provides that, in some very rare cases, obvious-type double patenting may be found between design and utility patents. See *Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 939-40, 220 USPQ 481, 487 (Fed.Cir.1983) (noting that, while theoretically possible, "[d]ouble patenting is rare in the context of utility versus design patents"); *In re Thorington*, 57 C.C.P.A. 759, 418 F.2d 528, 536-37, 163 USPQ 644, 650 (CCPA 1969) (Double patenting between a design and utility patent is possible "if the features producing the novel aesthetic effect of a design patent or application are the same as those recited in the claims of a utility patent or application as producing a novel structure."); *In re Phelan*, 40 C.C.P.A. 1023, 205 F.2d 183, 98 USPQ 156 (CCPA 1953); *In re Barber*, 81 F.2d 231, 28 USPQ 187 (CCPA 1936); *In re Hargraves*, 53 F.2d 900, 11 USPQ 240 (CCPA 1931). In these cases, a "two-way" test is applicable. See *Carman*, 724 F.2d at 940, 220 USPQ at 487. Under this test, the obviousness-type double patenting rejection is appropriate only if the claims of the two patents cross-read, meaning that "the test is whether the subject matter of the claims of the patent sought to be invalidated would have been obvious from the subject matter of the claims of the other patent, and vice versa." *Id.*, 724 F.2d 932, 220 USPQ at 487. See also *Braat*, 937 F.2d at 593, 19 USPQ2d at 1292 (explaining two-way test).

## B

In making its double patenting rejection, the Board concluded that all but one of the pending claims of Dembiczak's utility application would have been merely an obvious variation of the claims of the earlier-issued design patents—the Dembiczak '023 and '254 references—in light of the Holiday reference. The remaining claim, dependent claim 49, was judged obvious in light of the combination of the Dembiczak design patents, Holiday, and the Kessler reference.

[12, 13] Acknowledging that the two-way test was required by *Carman*, 724 F.2d at 940, 220 USPQ at 487, the Board concluded that "the design claimed in each of appellants' design patents does not exclude the features pertaining to the construction and color of the bag, the use of a plastic material for making the bag, the size or thickness of the bag . . . or the use of various types of filling material. . . . The particular details of the facial indicia would have been a matter of design choice as evidenced by the Holiday handbook," and that therefore, in view of Holiday, the claims of the design patents were obvious variants of the pending utility patent claims. See *Dembiczak*, slip op. at 11. We disagree. In order for a design to be unpatentable because of obviousness, there must first be a basic design reference in the prior art, the design characteristics of which are "basically the same as the claimed design." *In re Borden*, 90 F.3d 1570, 1574, 39 USPQ2d 1524, 1526 (Fed. Cir.1996); *In re Rosen*, 673 F.2d 388, 391, 213 USPQ 347, 350 (CCPA 1982). The phrase "having facial indicia thereon" found in the claims of the pending utility application is not a design reference that is "basically the same as the claimed design." *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526. In fact, it describes precious little with respect to design characteristics. The Board's suggestion that the design details were simply "a matter of design choice" evinces a misapprehension of the subject matter of design patents. *E.g.*, *Carman*, 724 F.2d at 939 n. 13, 220 USPQ at 486 n. 13 ("Utility patents afford protection for the mechanical structure and function of an invention whereas design patent protection concerns the ornamental or aesthetic features of a design.") Indeed, we note that the two design patents at issue here—the Dembiczak '023 and '254 patents—were considered nonobvious over each other, and were even the subject of a restriction requirement. See 35 U.S.C. § 121 (1994) ("If two or more independent and distinct inventions are claimed in one

application, the Commissioner may require the application to be restricted to one of the inventions.”); 37 C.F.R. § 1.142. The position adopted by the Board—that a textual description of facial indicia found in the claims of the utility patent application makes obvious the specific designs claimed in the (patentably distinct) Dembiczak design patents—would presumably render obvious, or even anticipate, all design patents where a face was depicted on a bag. But this, of course, is not the law; the textual description cannot be said to be a reference “basically the same as the claimed design,” of the design patents at issue here. *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526 (internal quotation marks omitted). The Board’s conclusion of obviousness is incorrect.

Because we find that the Board erred in concluding that the design patents were obvious variants of the pending utility claims, we need not address the other prong of the two-way double patenting test—whether the pending utility claims are obvious variations of the subject matter claimed in the design patents. See *Carman*, 724 F.2d at 939, 220 USPQ at 487 (both prongs of the two-way test required for obviousness-type double patenting). The double patenting rejections are reversed.

#### IV

Because there is no evidence in the record of a suggestion, teaching, or motivation to combine the prior art references asserted against the pending claims, the obviousness rejections are reversed. In addition, because the Board misapprehended the test for obviousness-type double patenting, and because the pending utility claims do not render obvious the design patents, the double patenting rejections are also reversed.

**REVERSED.**



**PENTAGEN TECHNOLOGIES  
INTERNATIONAL LIMITED,  
Plaintiff-Appellant,**

**v.**

**UNITED STATES, Defendant-Appellee.**

**No. 98-5133.**

United States Court of Appeals,  
Federal Circuit.

May 3, 1999.

Owner of copyright for computer software program brought infringement action against the United States. The United States Court of Federal Claims, James T. Turner, J., dismissed action, and owner appealed. The Court of Appeals, Friedman, Senior Circuit Judge, held that statute which bars recovery for any copyright infringement by the government committed more than three years before filing of complaint was not equitably tolled.

Affirmed.

#### 1. Limitation of Actions ⇐104.5

Statute which bars recovery for any copyright infringement by the government committed more than three years before the filing of the complaint was not equitably tolled prior to copyright holder’s receipt of witness statement disclosing infringement, absent allegation that government concealed the alleged infringement or that copyright holder was unaware of the infringement until such receipt. 28 U.S.C.A. § 1498(b).

#### 2. Federal Civil Procedure ⇐1754

Even where equitable tolling might apply, a complaint properly may be dismissed for failure to state a claim as time-barred if (1) the face of the complaint shows that the claim is time-barred and (2)

that the opposition was prompted because of such facts. Indeed, the only evidence of record, Syntex's label, shows no citrus in the formulation. PGI then goes on to argue that, because the description of Syntex's goods is broad, Syntex's hair care preparations could, in the future, include one with citrus, for example, lemon, as an ingredient if none is now in the products. The board discounted the materiality of this issue and we agree. Simply having lemon as an ingredient would not establish the type of relationship between products which is likely to lead to confusion of source in the marketplace. See *B. Vanderburgh, Trademark Law and Procedure* §5.41, at 202-03 (2nd ed. 1968).

[3] Finally, PGI argues that it is entitled to discovery to learn if Syntex intends to change its formula and/or advertising or if Syntex knows of instances of actual confusion. We do not agree. Summary judgment need not be denied merely to satisfy a litigant's speculative hope of finding some evidence that might tend to support a complaint. *First National Bank of Arizona v. Cities Service Co.*, 391 U.S. 253, 290 (1968). Further litigation in this case not only would put the parties to unnecessary expense but also, equally importantly, would be wasteful of judicial resources.<sup>2</sup>

Giving PGI the benefit of all doubt, on the record of this case, we conclude that Syntex is entitled to judgment on the issue of likelihood of confusion as a matter of law.

With respect to the board's refusal to permit an amendment of PGI's pleadings under §2(a) to substitute an allegation of likelihood of confusion or its equivalent for the dismissed pleading of deception, we agree that the proposed amendment would serve no useful purpose.

#### Conclusion

For the above reasons, the decision of the Trademark Trial and Appeal Board is affirmed.

*Affirmed*

<sup>2</sup> The practice of the U.S. Claims Court and of the former U.S. Court of Claims in routinely disposing of numerous cases on the basis of cross-motions for summary judgment has much to commend it. The adoption of similar practice is to be encouraged in inter partes cases before the Trademark Trial and Appeal Board, which seem particularly suitable to this type of disposition. Too often we see voluminous records which would be appropriate to an infringement or unfair competition suit but are wholly unnecessary to resolution of the issue of registrability of a mark.

#### Court of Appeals, Federal Circuit

Simmons Fastener Corporation  
v. Illinois Tool Works, Inc.

No. 83-1084

Decided July 31, 1984

#### PATENTS

##### 1. Patentability — Evidence of — In general (§51.451)

Trial court erred as matter of law in refusing to consider evidence of secondary considerations, objective evidence, mandated by *Graham v. John Deere Co.*, 148 USPQ 459, in arriving at its decision on obviousness; only after all evidence of nonobviousness has been considered can conclusion on obviousness be reached.

##### 2. Patentability — Evidence of — In general (§51.451)

Nexus between merits of claimed invention and evidence of secondary considerations is required in order for evidence to be given substantial weight in obviousness decision.

##### 3. Pleading and practice in courts — Issues determined — Validity and infringement (§53.577)

When questions of validity and infringement are raised in same proceeding, trial court should decide both issues and enter judgment on both.

#### Particular Patents — Fasteners

3,802,476, Hoadley, Screw Anchor, holding of invalidity reversed.

Appeal from District Court for the Northern District of New York, McCurn, J.; 218 USPQ 547.

Action by Simmons Fastener Corporation, against Illinois Tool Works, Inc., for declaration of patent invalidity, non-infringement, and unenforceability, in which defendant counterclaims for patent infringement. From judgment for plaintiff, defendant appeals.

Granger Cook, Jr., and Cook, Wetzel & Egan, both of Chicago, Ill. (Russell J. Barron, Chicago, Ill., on the brief; Thomas W. Buckman and Jack R. Halvorsen, both of Chicago, Ill., of counsel) for appellant.

Eliot S. Gerber, and Wyatt, Gerber, Scobey & Badie, both of New York, N.Y. (Richard

Kohn, and Kohn, Bookstein & Karp, both of Albany, N.Y., of counsel) for appellee.

Before Baldwin, Miller, and Smith, Circuit Judges.

Baldwin, Circuit Judge.

This is an appeal from a judgment of the United States District Court for the Northern District of New York<sup>1</sup> holding U.S. Patent No. 3,802,476 ('476 patent) entitled "Screw Anchor" to James E. Hoadley invalid for obviousness. We reverse the decision and remand the case to the trial court.

### Background

Both appellant, Illinois Tool Works, Inc. (ITW), and appellee, Simmons Fastener Corporation (Simmons), make and sell industrial fasteners to refrigerator manufacturers. The '476 patent was assigned to ITW.

The particular industrial fastener involved in this case, also called a screw anchor, is useful in refrigerators having a steel outer shell, a thin flexible plastic liner, and foamed-in-place insulation in between. The plastic liners posed many difficulties to manufacturers wishing to install shelves and other hardware in the refrigerator cabinet, because the liners were fragile and subject to cracking, and foam injected during the foaming process would leak through the fastener holes made in the liner into the refrigerator cabinet. The ITW fastener, which embodies the invention of the '476 patent as defined by claims 1 and 2 of that patent, is one of many products devised in response to the fastening problems of the refrigerator industry. The trial court opinion fully describes the claimed invention and the prior art and recites claims 1 and 2 of the '476 patent.

### Proceedings

In June 1980, Simmons filed a declaratory judgment action seeking a judgment that the '476 patent was invalid, unenforceable,<sup>2</sup> and

not infringed by certain self-adhering screw anchors manufactured and sold by Simmons. ITW counterclaimed for infringement of the '476 patent.

In the memorandum accompanying its judgment, the trial court held the '476 patent invalid for obviousness and refrained from deciding the issues of infringement and enforceability.

### Issue

Did the trial court err in holding the '476 patent invalid under 35 USC 103?

### Opinion

At trial, Simmons' counsel conceded the commercial success of ITW's Hoadley screw anchor: "Now, we admit, and I will be willing to enter into a stipulation that there is commercial success. They have sold millions, we have sold millions, so there is commercial success."

In the parties' amended pretrial statement, in a section called "Facts Not In Dispute" the parties agreed that:

25. ITW has made and sold millions of products covered by the claims of the patent-in-suit to General Electric, Whirlpool Corporation, White Consolidated Industries and others. The ITW patented product has been a substantial commercial success.

26. Simmons has sold millions of its products to White Consolidated Industries and others.

As for "long felt but unsolved needs," the court said that satisfaction of such needs depended on whether they were considered individually or collectively. The court then listed twelve advantages of ITW's device along with the prior art devices that afforded some of the same advantages, and said: "Thus the 'unsolved need' satisfied by Hoadley could only be found, if at all, in marketing a device which combines these advantages."

Although the court did not consider prior fasteners to be "failed attempts," it acknowledged that "the Hoadley device, by combining elements present in the prior art, constituted an improvement over any individual prior fastener. This is evidenced not only by its commercial success but by the limitation[sic] of others, including Simmons."

After a discussion of the most pertinent prior art references,<sup>3</sup> the court said:

<sup>1</sup> 560 F.Supp. 1277, 218 USPQ 547 (1983).

<sup>2</sup> The asserted grounds for unenforceability are that ITW failed to fully and accurately describe prior art to the Patent and Trademark Office and that ITW engaged in various acts of patent misuse.

<sup>3</sup> Knowlton, U.S. Patent No. 3,266,699; Simmons, 3188 back-up plate; Krueger, U.S. Patent No. 3,298,271.

[I]t is \*\*\* established that "secondary considerations will not support a claim of invention if the subject-matter of the patent does not pass the section 103 test of non-obviousness." \*\*\* ("[C]ommercial success 'cannot breathe life into a patent otherwise invalid because of obviousness'".) [Citations omitted.]

Therefore, while the Hoadley invention constituted a practical and commercially popular means of fastening, the Court is persuaded by what it regards to be clear and convincing evidence that the subject matter of the Hoadley patent would have been obvious to a skilled engineer in the fastener field at the time the invention was made. The patent is therefore invalid under 35 U.S.C. §103. [Emphasis added.]

[1] We reverse the decision of the trial court that the claims of the '476 patent would have been obvious under 35 USC 103 and remand the case for determinations on the questions of infringement and enforceability, because the trial court erred as a matter of law in refusing to consider the evidence of secondary considerations (objective evidence) mandated by *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), in arriving at its decision on obviousness.

The section 103 test of nonobviousness set forth in *Graham* is a four part inquiry comprising, not only the three familiar elements (scope and content of the prior art, differences between the prior art and the claims at issue, and level of ordinary skill in the pertinent art), but also evidence of secondary considerations when such evidence is, of course, present. *Jones v. Hardy*, 727 F.2d 1524, 1527, 220 USPQ 1021, 1023 (Fed. Cir. 1984).

Only after all evidence of nonobviousness has been considered can a conclusion on obviousness be reached. The trial court's error lies in its exclusion of such evidence in arriving at a conclusion on the obviousness of the claimed invention.

In *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983), this court said:

[E]vidence rising out of the so-called "secondary considerations" must always when present be considered en route to a determination of obviousness. In *re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983) citing *In re Fielder and Underwood*, 471 F.2d 640, 176 USPQ 300 (CCPA 1983), see *In re Mageli et al.*, 470 F.2d 1380, 1384, 176 USPQ 305, 307 (CCPA 1973) (evidence bearing on issue of nonobviousness "is never of no moment," is always to be considered and accorded what-

ever weight it may have.") Indeed, evidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decisionmaker remains in doubt after reviewing the art. [Emphasis added.]

Also, in *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1555, 220 USPQ 303, 314 (Fed. Cir. 1983), this court said:

Having determined that the invention would have been obvious in view of the process of either Smith or Sumitomo, the district court did not discuss the strong showing of objective evidence of nonobviousness here present, saying with respect to one part of such evidence, "no amount of commercial success can save it." That approach was error. All evidence bearing on the issue of obviousness, as with any other issue raised in the conduct of the judicial process, must be considered and evaluated before the required legal conclusion is reached. [Citing *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d at 1538, 218 USPQ at 879 (Fed. Cir. 1983).]

The objective evidence of nonobviousness, i.e., the "indicia" of *Graham* \*\*\* may in a given case be entitled to more weight or less, depending to its nature and its relationship to the merits of the invention. It may be the most pertinent, probative, and revealing evidence available to aid in reaching a conclusion on the obvious/nonobvious issue. It should when present always be considered as an integral part of the analysis.

See also, *In re De Blauwe*, Appeal No. 84-513, slip op. at 15-16, 222 USPQ at 196-197 (Fed. Cir. June 8, 1984); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1461, 221 USPQ 481, 487-88 (Fed. Cir. 1984); *Jones*, 727 F.2d at 1530-31, 220 USPQ at 1026-27; *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 961, 220 USPQ 592, 600 (Fed. Cir. 1983); *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1576, 220 USPQ 97, 105, (Fed. Cir. 1983); *In re Sernaker*, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983).

[2] A nexus between the merits of the claimed invention and the evidence of secondary considerations is required in order for the evidence to be given substantial weight in an obviousness decision. *Stratoflex*, 713 F.2d at 1539, 218 USPQ at 879. The requisite nexus was found by the trial court. See *supra*.

We agree with the trial court that the teachings of the prior art *prima facie* would have suggested to one of ordinary skill in the art the claimed invention. The reader is referred to the trial court's opinion for its discussion of the first three Graham factors. However, the evidence of secondary considerations in this case, particularly commercial success, is extremely strong, and is entitled to great weight. In considering the evidence of obviousness/nonobviousness collectively, we conclude the trial court's decision that the claimed invention of the '476 patent would have been obvious under 35 USC 103 must fall. We accordingly reverse the trial court's decision, and remand the case to the trial court for a determination of the infringement and enforceability questions.

[3] When questions of validity and infringement are raised in the same proceeding, the trial court should decide both issues and enter judgment on both. *Lindemann*, 730 F.2d at 1463-64, 221 USPQ at 489-90; *Stratoflex*, 713 F.2d at 1540-41, 218 USPQ at 880.

Though an invalid claim cannot give rise to liability for infringement, whether it is infringed is an entirely separate question capable of determination without regard to its validity. Because both validity and infringement involve construction of a claim, and because the construction must be the same in determining both, it is desirable to decide both questions at the same time.

*Medtronic*, 721 F.2d at 1582-83, 220 USPQ at 111.

The decision as to obviousness is reversed and the case is remanded to the trial court for a determination of the questions of whether the claims of the '476 patent are infringed by the accused Simmons devices and whether the '476 patent is enforceable.

*Reversed and Remanded*

## Court of Appeals, Federal Circuit

Nestier Corporation  
v. Menasha Corporation-Lewisystems  
Division

No. 83-1313

Decided Aug. 1, 1984

### PATENTS

#### 1. Infringement — Substitution of equivalents — In general (§39.751)

Doctrine of equivalents permits finding of infringement, despite absence of literal identity between claimed device and elements of alleged infringing device, where two devices do same work in substantially same way, and accomplish substantially same result; equivalence in this regard does not require complete identity for every purpose and in every respect.

#### 2. Infringement — Substitution of equivalents — In general (§39.751)

Analysis of equivalence involves factors of functions, means, and result, and jury cannot be expected to be able to make any such determination absent evidence and argument concerning doctrine and each of its elements; furthermore, equivalence must be established with respect to claims of patent; not for commercial structures involved; it is not enough merely to demonstrate equivalency of two commercial devices; this is not to say that exact language of *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*, 85 USPQ 328, must be used by attorneys and witnesses; however, party who had burden of proving infringement at trial had responsibility of establishing equivalence with respect to claims of patent and of stating its case within that context.

#### 3. Infringement — Substitution of equivalents — In general (§39.751)

#### Pleading and practice in courts — Jury trial — In general (§53.371)

Theory of infringement through equivalence is not inherent, or necessarily included, in literal infringement theory when that alone is presented to jury, although circumstances and requirements might possibly differ in non-jury trial; fact that some arguments concerning literal infringement might also have been relevant to equivalency analysis is not sufficient, in itself, to establish that evidence and context for jury.

## MATTERS HANDLED CONCURRENTLY WITH APPEAL

The Office does not acknowledge receipt of a notice of appeal by separate letter. However, if a self-addressed postcard is included with the notice of appeal, it will be date stamped and mailed.

Form paragraphs 12.01-12.04 may be used to indicate defects in a notice of appeal.

### ¶ 12.01 Notice of Appeal Unacceptable - Fee Unpaid

The notice of appeal filed on [1] is not acceptable because the appeal fee required under 37 CFR 1.17(b) was not filed, or was not timely filed.

Applicant may obtain an extension of time under 37 CFR 1.136(a) to file the appropriate appeal fee. The date on which the notice of appeal, the appeal fee, the petition under 37 CFR 1.136(a), and the petition fee are filed will be the date of the reply and also the date for determining the period of extension and the corresponding amount of the fee. In no case may an applicant reply later than the maximum SIX MONTH statutory period or obtain an extension pursuant to 37 CFR 1.136(a) for more than FIVE MONTHS beyond the date of reply set in an Office action.

### ¶ 12.02 Notice of Appeal Unacceptable - No 2nd Rejection

The notice of appeal filed on [1] is not acceptable under 37 CFR 1.191(a) because [2].

#### Examiner Note:

In bracket 2, insert the following wording, as appropriate:

--there has been no second or final rejection in this patent application--;

--there has been no second or final rejection in this *ex parte* reexamination proceeding on a patent that issued from an original application filed in the United States before November 29, 1999--; or

--there has been no final rejection (37 CFR 1.113) of the claims in this *ex parte* reexamination proceeding on a patent that issued from an original application filed in the United States on or after November 29, 1999--.

### ¶ 12.03 Notice of Appeal Unacceptable - Not Timely Filed

The notice of appeal filed on [1] is not acceptable because it was filed after the expiration of the period set in the prior Office action. This application will become abandoned unless applicant obtains an extension under 37 CFR 1.136(a). The date on which the notice of appeal, the appeal fee, the petition under 37 CFR 1.136(a), and the petition fee under 37 CFR 1.17(a) are filed will be the date of the reply and also the date for determining the period of extension and the corresponding amount of the fee. In no case may an applicant reply later than the maximum SIX MONTH statutory period or obtain an extension pursuant to 37 CFR 1.136(a) for more than FIVE MONTHS beyond the date of reply set in an Office action.

### ¶ 12.04 Notice of Appeal Unacceptable - Claims Allowed

The notice of appeal filed on [1] is not acceptable because a notice of allowability was mailed by the Office on [2].

## 1206 Appeal Brief

### 37 CFR 1.192. Appellant's brief.

(a) Appellant must, within two months from the date of the notice of appeal under § 1.191 or within the time allowed for reply to the action from which the appeal was taken, if such time is later, file a brief in triplicate. The brief must be accompanied by the fee set forth in § 1.17(c) and must set forth the authorities and arguments on which appellant will rely to maintain the appeal. Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and Interferences, unless good cause is shown.

(b) On failure to file the brief, accompanied by the requisite fee, within the time allowed, the appeal shall stand dismissed.

(c) The brief shall contain the following items under appropriate headings and in the order indicated below unless the brief is filed by an applicant who is not represented by a registered practitioner:

(1) *Real party in interest.* A statement identifying the real party in interest, if the party named in the caption of the brief is not the real party in interest.

(2) *Related appeals and interferences.* A statement identifying by number and filing date all other appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) *Status of claims.* A statement of the status of all the claims, pending or cancelled, and identifying the claims appealed.

(4) *Status of amendments.* A statement of the status of any amendment filed subsequent to final rejection.

(5) *Summary of invention.* A concise explanation of the invention defined in the claims involved in the appeal, which shall refer to the specification by page and line number, and to the drawing, if any, by reference characters.

(6) *Issues.* A concise statement of the issues presented for review.

(7) *Grouping of claims.* For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

(8) *Argument.* The contentions of appellant with respect to each of the issues presented for review in paragraph (c)(6) of this section, and the basis therefor, with citations of the authorities, statutes, and parts of the record relied on. Each issue should be treated under a separate heading.

(i) For each rejection under 35 U.S.C. 112, first paragraph, the argument shall specify the errors in the rejection and how the first paragraph of 35 U.S.C. 112 is complied with, including, as appropriate, how the specification and drawings, if any,

(A) Describe the subject matter defined by each of the rejected claims,

(B) Enable any person skilled in the art to make and use the subject matter defined by each of the rejected claims, and

(C) Set forth the best mode contemplated by the inventor of carrying out his or her invention.

(ii) For each rejection under 35 U.S.C. 112, second paragraph, the argument shall specify the errors in the rejection and how the claims particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(iii) For each rejection under 35 U.S.C. 102, the argument shall specify the errors in the rejection and why the rejected claims are patentable under 35 U.S.C. 102, including any specific limitations in the rejected claims which are not described in the prior art relied upon in the rejection.

(iv) For each rejection under 35 U.S.C. 103, the argument shall specify the errors in the rejection and, if appropriate, the specific limitations in the rejected claims which are not described in the prior art relied on in the rejection, and shall explain how such limitations render the claimed subject matter unobvious over the prior art. If the rejection is based upon a combination of references, the argument shall explain why the references, taken as a whole, do not suggest the claimed subject matter, and shall include, as may be appropriate, an explanation of why features disclosed in one reference may not properly be combined with features disclosed in another reference. A general argument that all the limitations are not described in a single reference does not satisfy the requirements of this paragraph.

(v) For any rejection other than those referred to in paragraphs (c)(8)(i) to (iv) of this section, the argument shall specify the errors in the rejection and the specific limitations in the rejected claims, if appropriate, or other reasons, which cause the rejection to be in error.

(9) *Appendix.* An appendix containing a copy of the claims involved in the appeal.

(d) If a brief is filed which does not comply with all the requirements of paragraph (c) of this section, appellant will be notified of the reasons for non-compliance and provided with a period of one month within which to file an amended brief. If appellant does not file an amended brief during the one-month period, or files an amended brief which does not overcome all the reasons for non-compliance stated in the notification, the appeal will stand dismissed.

Where the brief is not filed, but within the period allowed for filing the brief an amendment is presented which places the application in condition for allowance, the amendment may be entered since the application retains its pending status during said period. Amendments should not be included in the appeal

brief. Amendments should be filed as separate papers. See MPEP § 1207, § 1215.01, and § 1215.02.

### TIME FOR FILING APPEAL BRIEF

37 CFR 1.192(a) provides 2 months from the date of the notice of appeal for the appellant to file an appeal brief. In an *ex parte* reexamination proceeding, the time period can be extended only under the provisions of 37 CFR 1.550(c). See also MPEP § 2274.

The usual period of time in which appellant must file his or her brief is 2 months from the date of appeal. The Office date of receipt of the notice of appeal (and not the date indicated on any Certificate of Mailing under 37 CFR 1.8) is the date from which this 2 month time period is measured. See MPEP § 512. However, 37 CFR 1.192(a) alternatively permits the brief to be filed "within the time allowed for reply to the action from which the appeal was taken, if such time is later." These time periods may be extended under 37 CFR 1.136(a), and if 37 CFR 1.136(a) is not available, under 37 CFR 1.136(b) for extraordinary circumstances.

In the event that the appellant finds that he or she is unable to file a brief within the time period allotted by the rules, he or she may file a petition, with fee, to the Technology Center (TC), requesting additional time under 37 CFR 1.136(a). Additional time in excess of 5 months will not be granted unless extraordinary circumstances are involved under 37 CFR 1.136(b). The time extended is added to the calendar day of the original period, as opposed to being added to the day it would have been due when said last day is a Saturday, Sunday, or Federal holiday.

If after an appeal has been filed, but prior to the date for submitting a brief, an interference is declared, appellant's brief need not be filed while the interference is pending, unless the administrative patent judge has consented to prosecution of the application concurrently with the interference. See MPEP § 2315. Absent such concurrent prosecution, the examiner may, after the interference has terminated and the files have been returned to him or her, (A) set a 2-month period for filing the brief, or (B) withdraw the final rejection of the appealed claims in order to enter an additional rejection on a ground arising out of the interference. See, for example, MPEP § 2363.03. Also, if the appellant was the losing party in the interference, claims which were designated as

corresponding to the lost count or counts will stand finally disposed of under 37 CFR 1.663.

When an application is revived after abandonment for failure on the part of the appellant to take appropriate action after final rejection, and the petition to revive was accompanied by a notice of appeal, appellant has 2 months, from the mailing date of the Commissioner's affirmative decision on the petition, in which to file the appeal brief. The time period for filing the appeal brief may be extended under 37 CFR 1.136.

With the exception of a declaration of an interference or suggestion of claims for an interference and timely copying of claims for an interference, the appeal ordinarily will be dismissed if the brief is not filed within the period provided by 37 CFR 1.192(a) or within such additional time as may be properly extended.

A brief must be filed to preserve appellant's right to the appealed claims, notwithstanding circumstances such as:

(A) the possibility or imminence of an interference involving the subject application, but not resulting in withdrawal of the final rejection prior to the brief's due date;

(B) the filing of a petition to invoke the supervisory authority of the Commissioner under 37 CFR 1.181;

(C) the filing of an amendment, even if it is one which the examiner previously has indicated may place one or more claims in condition for allowance, unless the examiner, in acting on the amendment, disposes of all issues on appeal;

(D) the receipt of a letter from the examiner stating that prosecution is suspended, without the examiner withdrawing the final rejection from which appeal has been taken or suggesting claims for an interference, and without an administrative patent judge declaring an interference with the subject application.

Although failure to file the brief within the permissible time will result in dismissal of the appeal, if any claims stand allowed, the application does not become abandoned by the dismissal, but is returned to the examiner for action on the allowed claims. See MPEP § 1215.04. If there are no allowed claims, the applica-

tion is abandoned as of the date the brief was due. Claims which have been objected to as dependent from a rejected claim do not stand allowed. In a reexamination proceeding failure to file the brief will result in the issuance of the certificate under 37 CFR 1.570.

If the time for filing a brief has passed and the application has consequently become abandoned, the applicant may petition to revive the application, as in other cases of abandonment, and to reinstate the appeal; if the appeal is dismissed, but the application is not abandoned, the petition would be to reinstate the claims and the appeal, but a showing equivalent to that in a petition to revive under 37 CFR 1.137 is required. In either event, a proper brief must be filed before the petition will be considered on its merits.

Where the dismissal of the appeal is believed to be in error, filing a petition, pointing out the error, may be sufficient.

A fee under 37 CFR 1.17(c) is required when the brief is filed. 37 CFR 1.192(a) requires the submission of three copies of the appeal brief.

## APPEAL BRIEF CONTENT

The brief, as well as every other paper relating to an appeal, should indicate the number of the Technology Center (TC) to which the application or patent under reexamination is assigned and the application or reexamination control number. When the brief is received, it is forwarded to the TC where it is entered in the file, and referred to the examiner.

An appellant's brief must be responsive to every ground of rejection stated by the examiner.

Where an appeal brief fails to address any ground of rejection, appellant shall be notified by the examiner that he or she must correct the defect by filing a brief (in triplicate) in compliance with 37 CFR 1.192(c). See 37 CFR 1.192(d). Form paragraphs 12.76-12.76.06 and 12.78, or form PTOL-462, "Notification of Non-Compliance with 37 CFR 1.192(c)," may be used to notify the appellant of the deficiency. Oral argument at a hearing will not remedy such deficiency of a brief. The fact that appellant may consider a ground to be clearly improper does not justify a failure to point out to the Board the reasons for that belief.

The mere filing of paper entitled as a brief will not necessarily be considered to be in compliance with 37 CFR 1.192(c). The rule requires that the brief must set forth the authorities and arguments relied upon. Since it is essential that the Board should be provided with a brief fully stating the position of the appellant with respect to each issue involved in the appeal so that no search of the record is required in order to determine that position, 37 CFR 1.192(c) requires that the brief contain specific items, as discussed below.

An exception to the requirement that all the items specified in 37 CFR 1.192(c) be included in the brief is made if the application or reexamination proceeding is being prosecuted by the appellant *pro se*, i.e., there is no attorney or agent of record, and the brief was neither prepared nor signed by a registered attorney or agent. The brief of a *pro se* appellant which does not contain all of the items, (1) to (9), specified in 37 CFR 1.192(c) will be accepted as long as it substantially complies with the requirements of items (1), (2), and (8). If the brief of a *pro se* appellant is accepted, it will be presumed that all the claims of a rejected group of claims stand or fall together unless an argument is included in the brief that presents reasons as to why the appellant considers one or more of the claims in the rejected group to be separately patentable from the other claims in the group.

A distinction must be made between the lack of any argument and the presentation of arguments which carry no conviction. In the former case, notification of a defective appeal brief is in order, while in the latter case, the application or reexamination is forwarded to the Board for a decision on the merits. As noted above, the examiner may use form paragraphs 12.76-12.76.06 and 12.78, or form PTOL-462, "Notification of Non-Compliance with 37 CFR 1.192(c)," to notify appellant that the appeal brief is defective.

If in his or her brief, appellant relies on some reference, he or she is expected to provide the Board with three copies of it.

The specific items required by 37 CFR 1.192(c) are:

(1) *Real party in interest.* A statement identifying the real party in interest, if the party named in the caption of the brief is not the real party in interest. If appellant does not name a real party in interest, the examiner will assume that the party named in the cap-

tion of the brief is the real party in interest, i.e., the owner at the time the brief is being filed.

The identification of the real party in interest will allow members of the Board to comply with ethics regulations associated with working in matters in which the member has a financial interest to avoid any potential conflict of interest. While the examiner will assume that the real party in interest is the individual or individuals identified in the caption when the real party in interest is not explicitly set out in the brief, nevertheless, the Board may require the appellant to explicitly name the real party in interest. See MPEP § 1210.01.

(2) *Related appeals and interferences.* A statement identifying by application number and filing date all other appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal. The appeal or interference number should also be listed. The statement is not limited to copending applications. If appellant does not identify any other appeals or interferences, the examiner will presume that there are none. While the examiner will assume that there are no related cases when no related case is explicitly set out in the brief, nevertheless, the Board may require the appellant to explicitly identify any related case. See MPEP § 1210.01.

(3) *Status of Claims.* A statement of the status of all the claims in the application, or patent under reexamination, i.e., for each claim in the case, appellant must state whether it is cancelled, allowed, rejected, etc. Each claim on appeal must be identified.

(4) *Status of Amendments.* A statement of the status of any amendment filed subsequent to final rejection, i.e., whether or not the amendment has been acted upon by the examiner, and if so, whether it was entered, denied entry, or entered in part. This statement should be of the status of the amendment as understood by the appellant.

Items (3) and (4) are included in 37 CFR 1.192(c) to avoid confusion as to which claims are on appeal, and the precise wording of those claims, particularly where the appellant has sought to amend claims after final rejection. The inclusion of items (3) and (4) in the brief will advise the examiner of what the appellant considers the status of the claims and post-final rejection amendments to be, allowing any

disagreement on these questions to be resolved before the appeal is taken up for decision by the Board.

(5) *Summary of Invention.* A concise explanation of the invention defined in the claims involved in the appeal. This explanation is required to refer to the specification by page and line number, and, if there is a drawing, to the drawing by reference characters. Where applicable, it is preferable to read the appealed claims on the specification and any drawing. While reference to page and line number of the specification may require somewhat more detail than simply summarizing the invention, it is considered important to enable the Board to more quickly determine where the claimed subject matter is described in the application.

(6) *Issues.* A concise statement of the issues presented for review. Each stated issue should correspond to a separate ground of rejection which appellant wishes the Board of Patent Appeals and Interferences to review. While the statement of the issues must be concise, it should not be so concise as to omit the basis of each issue. For example, the statement of an issue as "Whether claims 1 and 2 are unpatentable" would not comply with 37 CFR 1.192(c)(6). Rather, the basis of the alleged unpatentability would have to be stated, e.g., "Whether claims 1 and 2 are unpatentable under 35 U.S.C. 103 over Smith in view of Jones," or "Whether claims 1 and 2 are unpatentable under 35 U.S.C. 112, first paragraph, as being based on a nonenabling disclosure." The statement would be limited to the issues presented, and should not include any argument concerning the merits of those issues.

(7) *Grouping of Claims.* For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone, unless a statement is included that the claims of the group do not stand or fall together and, in the argument section of the brief (37 CFR 1.192(c)(8)), appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable. If an appealed ground of rejection applies to more than one claim and appellant considers the rejected claims to be separately patentable, 37 CFR 1.192(c)(7) requires appellant to state that the claims

do not stand or fall together, and to present in the appropriate part or parts of the argument under 37 CFR 1.192(c)(8) the reasons why they are considered separately patentable.

The absence of such a statement and argument is a concession by the applicant that, if the ground of rejection were sustained as to any one of the rejected claims, it will be equally applicable to all of them. 37 CFR 1.192(c)(7) is consistent with the practice of the Court of Appeals for the Federal Circuit indicated in such cases as *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991); *In re Nielson*, 816 F.2d 1567, 2 USPQ2d 1525 (Fed. Cir. 1987); *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986); and *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983). 37 CFR 1.192(c)(7) requires the inclusion of reasons in order to avoid unsupported assertions of separate patentability. The reasons may be included in the appropriate portion of the "Argument" section of the brief. For example, if claims 1 to 4 are rejected under 35 U.S.C. 102 and appellant considers claim 4 to be separately patentable from claims 1 to 3, he or she should so state in the "Grouping of claims" section of the brief, and then give the reasons for separate patentability in the 35 U.S.C. 102 portion of the "Argument" section (i.e., under 37 CFR 1.192(c)(8)(iii)).

In the absence of a separate statement that the claims do not stand or fall together, the Board panel assigned to the case will normally select the broadest claim in a group and will consider only that claim, even though the group may contain two broad claims, such as "ABCDE" and "ABCDEF." The same would be true in a case where there are both broad method and apparatus claims on appeal in the same group. The rationale behind the rule, as amended, is to make the appeal process as efficient as possible. Thus, while the Board will consider each separately argued claim, the work of the Board can be done in a more efficient manner by selecting a single claim from a group of claims when the appellant does not meet the requirements of 37 CFR 1.192(c)(7).

It should be noted that 37 CFR 1.192(c)(7) requires the appellant to perform two affirmative acts in his or her brief in order to have the separate patentability of a plurality of claims subject to the same rejection considered. The appellant must (A) state that the claims do not stand or fall together and (B) present arguments why the claims subject to the same rejection

tion are separately patentable. Where the appellant does neither, the claims will be treated as standing or falling together. Where, however, the appellant (A) omits the statement required by 37 CFR 1.192(c)(7) yet presents arguments in the argument section of the brief, or (B) includes the statement required by 37 CFR 1.192(c)(7) to the effect that one or more claims do not stand or fall together (i.e., that they are separately patentable) yet does not offer argument in support thereof in the "Argument" section of the brief, the appellant should be notified of the noncompliance as per 37 CFR 1.192(d). *Ex parte Schier*, 21 USPQ2d 1016 (Bd. Pat. App. & Int. 1991); *Ex parte Ohsumi*, 21 USPQ2d 1020 (Bd. Pat. App. & Int. 1991).

(8) *Argument*. The appellant's contentions with respect to each of the issues presented for review in 37 CFR 1.192(c) (6), and the basis for those contentions, including citations of authorities, statutes, and parts of the record relied on, should be presented in this section.

Included in this paragraph are five subparagraphs, (i) to (v). Subparagraphs (i) to (iv) concern the grounds of rejection most commonly involved in *ex parte* appeals, namely, 35 U.S.C. 112, first and second paragraphs, 35 U.S.C. 102, and 35 U.S.C. 103. Subparagraph (v) is a general provision concerning grounds of rejection not covered by subparagraphs (i) to (iv).

The purpose of subparagraphs (i) to (iv) is to ensure that the appellant's argument concerning each appealed ground of rejection will include a discussion of the questions relevant to that ground. Compliance with the requirements of the particular subparagraphs which are pertinent to the grounds of rejection involved in an appeal will be beneficial both to the U. S. Patent and Trademark Office and appellants. It will not only facilitate a decision by the Board of Patent Appeals and Interferences by enabling the Board to determine more quickly and precisely the appellant's position on the relevant issues, but also will help appellants to focus their arguments on those issues.

For each rejection not falling under subparagraphs (i) to (iv), subparagraph (v) provides that the argument should specify the specific limitations in the rejected claims, if appropriate, or other reasons, which cause the rejection to be in error. This language recognizes that for some grounds of rejection, it may not be

necessary to specify particular claim limitations, for example, a rejection under 35 U.S.C. 101, on the ground that the claims are directed to nonstatutory subject matter, as in *Ex parte Hibberd*, 227 USPQ 443 (Bd. Pat. App. & Inter. 1985).

37 CFR 1.192(a) contains the following sentence:

Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and Interferences, unless good cause is shown.

This sentence emphasizes that all arguments and authorities which an appellant wishes the Board to consider should be included in the brief. It should be noted that arguments not presented in the brief and made for the first time at the oral hearing are not normally entitled to consideration. *In re Chiddix*, 209 USPQ 78 (Comm'r Pat. 1980); *Rosenblum v. Hiroshima*, 220 USPQ 383 (Comm'r Pat. 1983).

37 CFR 1.192(a) is not intended to preclude the filing of a supplemental paper if new authority should become available or relevant after the brief was filed. An example of such circumstances would be where a pertinent decision of a court or other tribunal was not published until after the brief was filed.

(9) *Appendix*. An appendix containing a copy of the claims involved in the appeal.

The copy of the claims required in the brief Appendix by 37 CFR 1.192(c)(9) should be a clean copy and should not include any markings such as brackets or underlining. See MPEP § 1454 for the presentation of the copy of the claims in a reissue application.

The copy of the claims should be double spaced and the appendix should start on a new page.

37 CFR 1.192(c) merely specifies the minimum requirements for a brief, and does not prohibit the inclusion of any other material which an appellant may consider necessary or desirable, for example, a list of references, table of contents, table of cases, etc. A brief is in compliance with 37 CFR 1.192(c) as long as it includes items (1) to (9) in the order set forth (with the appendix, item (9), at the end).

## REVIEW OF BRIEF BY EXAMINER

The question of whether a brief complies with the rule is a matter within the jurisdiction of the examiner. 37 CFR 1.192(d) provides that if a brief is filed which does not comply with all the requirements of paragraph (c), the appellant will be notified of the reasons for noncompliance. Appellant will be given the long-

est of any of the following time periods to correct the defect(s):

(A) 1 month or 30 days from the mailing of the notification of non-compliance, whichever is longer;

(B) within the time period for reply to the action from which appeal has been taken; or

(C) within 2 months from the date of the notice of appeal under 37 CFR 1.191.

Extensions of time may be granted under 37 CFR 1.136(a) or 1.136(b). The examiner may use the form paragraphs set forth below or form PTOL-462, "Notification of Non-Compliance with 37 CFR 1.192(c)," to notify appellant that the appeal brief is defective. The appeal will be dismissed if the appellant does not timely file an amended brief, or files an amended brief which does not overcome all the reasons for noncompliance of which the appellant was notified.

Under 37 CFR 1.192(d), the appellant may file an amended brief to correct any deficiencies in the original brief. Moreover, if appellant disagrees with the examiner's holding of noncompliance, a petition under 37 CFR 1.181 may be filed.

Once the brief has been filed, a petition to suspend proceedings may be considered on its merits, but will be granted only in exceptional cases, such as where the writing of the examiner's answer would be fruitless or the proceedings would work an unusual hardship on the appellant.

For a reply brief, see MPEP § 1208.03.

Form paragraphs 12.08-12.13, 12.16, 12.17, and 12.69-12.78, or Form PTOL-462, "Notification of Non-Compliance with 37 CFR 1.192(c)," may be used concerning the appeal brief.

#### ¶ 12.08 Appeal Dismissed - Brief Fee Unpaid, No Allowed Claims

The appeal under 37 CFR 1.191 is dismissed because the fee for filing the brief, as required under 37 CFR 1.17(c) was not submitted or timely submitted and the period for obtaining an extension of time to file the brief under 37 CFR 1.136(a) has expired.

As a result of this dismissal, the application is ABANDONED since there are no allowed claims.

#### Examiner Note:

Claims which have been indicated as containing allowable subject matter, but are objected to as being dependent upon a rejected claim, are to be considered as if they were rejected. See MPEP § 1215.04.

#### ¶ 12.09 Appeal Dismissed - Brief Fee Unpaid, Allowed Claims

The appeal under 37 CFR 1.191 is dismissed because the fee for filing the appeal brief, as required under 37 CFR 1.17(c), was not submitted or timely submitted and the period for obtaining an extension of time to file the brief under 37 CFR 1.136(a) has expired.

As a result of this dismissal, the application will be further processed by the examiner since it contains allowed claims. Prosecution on the merits remains CLOSED.

#### Examiner Note:

Claims which have been indicated as containing allowable subject matter, but are objected to as being dependent upon a rejected claim, are to be considered as if they were rejected. See MPEP § 1215.04.

#### ¶ 12.09.01 Appeal Dismissed - Allowed Claims, Formal Matters Remaining

In view of applicant's failure to file a brief within the time prescribed by 37 CFR 1.192(a), the appeal stands dismissed and the proceedings as to the rejected claims are considered terminated. See 37 CFR 1.197(c).

This application will be passed to issue on allowed claim [1] provided the following formal matters are corrected. Prosecution is otherwise closed.

[2]

Applicant is required to make the necessary corrections within a shortened statutory period set to expire ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this letter. Extensions of time may be granted under 37 CFR 1.136.

#### Examiner Note:

1. This form paragraph should only be used if the formal matters cannot be handled by examiner's amendment. See MPEP § 1215.04.
2. In bracket 2, insert a description of the formal matters to be corrected.
3. Claims which have been indicated as containing allowable subject matter but are objected to as being dependent upon a rejected claim are to be considered as if they were rejected. See MPEP § 1215.04.

#### ¶ 12.10 Extension To File Brief - Granted

The request for an extension of time under 37 CFR 1.136(b) for filing the appeal brief under 37 CFR 1.192 filed on [1] has been approved for [2].

#### Examiner Note:

This form paragraph should only be used when 37 CFR 1.136(a) is not available or has been exhausted, such as in litigation reissues.

#### ¶ 12.11 Extension To File Brief - Denied

The request for an extension of time under 37 CFR 1.136(b) for filing the appeal brief under 37 CFR 1.192 filed on [1] has been disapproved because no sufficient cause for the extension has been shown.

**Examiner Note:**

This form paragraph should only be used when 37 CFR 1.136(a) is not available or has been exhausted, such as in litigation reissues.

**¶ 12.12 Brief Defective - Unsigned**

The appeal brief filed on [1] is defective because it is unsigned. 37 CFR 1.33. A ratification properly signed is required.

To avoid dismissal of the appeal, appellant must ratify the appeal brief within the longest of any of the following TIME PERIODS: (1) ONE MONTH or THIRTY DAYS from the mailing of this communication, whichever is longer; (2) within the time period for reply to the action from which appeal has been taken; or (3) within two months from the date of the notice of appeal under 37 CFR 1.191. Extensions of these time periods may be granted under 37 CFR 1.136.

**¶ 12.13 Brief Defective - Three Copies Lacking**

The appeal brief filed on [1] is defective because the three copies of the Brief required under 37 CFR 1.192(a) have not been submitted.

To avoid dismissal of the appeal, appellant must submit the necessary additional copies of the appeal brief within the longest of any of the following TIME PERIODS: (1) ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing of this communication; (2) within the time period for reply to the action from which appeal has been taken; or, (3) within two months from the date of the notice of appeal under 37 CFR 1.191. Extensions of these time periods may be granted under 37 CFR 1.136.

**¶ 12.16 Brief Unacceptable - Fee Unpaid**

The appeal brief filed on [1] is unacceptable because the fee required under 37 CFR 1.17(c) was not timely filed.

This application will become abandoned unless appellant obtains an extension of time under 37 CFR 1.136(a) and files the required appeal brief fee. The date on which the brief, the fee for filing the brief, the petition under 37 CFR 1.136(a), and the petition fee under 37 CFR 1.17(a) are filed will be the date of the reply and also the date for determining the period of extension and the corresponding amount of the fee. In no case may an appellant obtain an extension for more than FIVE MONTHS under 37 CFR 1.136(a) beyond the TWO MONTH period for filing the appeal brief.

**¶ 12.17 Brief Unacceptable - Not Timely Filed**

The appeal brief filed on [1] is unacceptable because it was filed after the expiration of the required period for reply.

This application will become abandoned unless appellant obtains an extension of time under 37 CFR 1.136(a). The date on which the appeal brief, the fee for filing the brief, the petition under 37 CFR 1.136(a), and the petition fee under 37 CFR 1.17(a) are filed will be the date of the reply and also the date for determining the period of extension and the corresponding amount of the fee. In no case may an appellant obtain an extension for more than FIVE MONTHS under 37 CFR 1.136(a) beyond the TWO MONTH period for filing the appeal brief.

Form paragraph 12.69, followed by one or more of from paragraphs 12.69.01-12.78 may be used for notifying noncompliance with 37 CFR 1.192(c).

**¶ 12.69 Heading for Notice Under 37 CFR 1.192(c)**

NOTIFICATION OF NON-COMPLIANCE WITH THE REQUIREMENTS OF 37 CFR 1.192(c)

**Examiner Note:**

Use form PTOL-90 and follow with one or more of form paragraphs 12.69.01 to 12.77 and conclude with form paragraph 12.78.

**¶ 12.69.01 Statement in Brief That Claims Do Not Stand or Fall Together - Supporting Reasons Lacking**

The brief includes a statement that claims [1] do not stand or fall together, but fails to present reasons in support thereof as required under 37 CFR 1.192(c)(7). MPEP § 1206.

**Examiner Note:**

1. This form paragraph should be used only when no supporting reasons are presented in the brief. If reasons are presented, even if they are not agreed with, use form paragraph 12.55.02 instead of this form paragraph. Reasons for disagreement are discussed in either the "Grounds of Rejection" or in the "Response to Argument" portion of the Examiner's Answer.

2. If the brief contains neither a statement that claims do not stand or fall together nor reasons in support thereof, use form paragraph 12.55.01 in the Examiner's Answer.

**¶ 12.70 Missing Section Headings**

The brief does not contain the items of the brief required by 37 CFR 1.192(c) under the appropriate headings and/or in the order indicated. [1]

**Examiner Note:**

In bracket 1, insert an indication of the missing headings or errors in the order of items.

**¶ 12.70.01 Defect in Statement of Real Party in Interest**

The brief does not contain a heading identifying the real party in interest as required by 37 CFR 1.192(c)(1).

**¶ 12.70.02 Defect in Statement of Related Appeals and Interferences**

The brief does not contain a heading identifying the related appeals and interferences directly affected by or having a bearing on the decision in the pending appeal as required by 37 CFR 1.192(c)(2).

**¶ 12.71 Defect in Statement of Status of Claims**

The brief does not contain a statement of the status of all the claims, pending or canceled, and identify the claims appealed as required by 37 CFR 1.192(c)(3). [1]

**Examiner Note:**

In bracket 1, insert an indication of the missing claim status information.

**¶ 12.72 Defect in Statement of Status of Amendment Filed After Final Rejection**

The brief does not contain a statement of the status of an amendment filed subsequent to the final rejection as required by 37 CFR 1.192(c)(4). [1]

**Examiner Note:**

In bracket 1, insert an identification of the amendment for which the status is missing.

**¶ 12.73 Defect in Explanation of the Invention**

The brief does not contain a concise explanation of the invention defined in the claims involved in the appeal, which refers to the specification by page and line number, and to the drawing, if any, by reference characters as required by 37 CFR 1.192(c)(5). [1]

**Examiner Note:**

In bracket 1, insert an indication of the missing explanation.

**¶ 12.74 Defect in Statement of the Issues**

The brief does not contain a concise statement of the issues presented for review as required by 37 CFR 1.192(c)(6). [1]

**Examiner Note:**

In bracket 1, insert an indication of the missing concise statement of the issues presented for review.

**¶ 12.76 Defect in the Arguments of the Appellant**

The brief does not contain arguments of the appellant with respect to each of the issues presented for review in 37 CFR 1.192(c)(6), and the basis therefor, with citations of the authorities, statutes, and parts of the record relied on as required by 37 CFR 1.192(c)(8).

**Examiner Note:**

Include one or more of form paragraphs 12.76.01 to 12.76.06 which apply.

**¶ 12.76.01 Separate Heading for Each Issue**

Each issue should be treated under a separate heading.

**¶ 12.76.02 Defect in 112, First Paragraph, Rejection Argument**

The brief does not contain, for each rejection under 35 U.S.C. 112 (first paragraph), an argument which specifies the errors in the rejection and how the first paragraph of 35 U.S.C. 112 is complied with, including how the specification and drawings, if any, [1].

**Examiner Note:**

In bracket 1, insert the following wording, as appropriate:

(a)--describe the subject matter defined by each of the rejected claims--;

(b)--enable any person skilled in the art to make and use the subject matter defined by each of the rejected claims--; or

(c)--set forth the best mode contemplated by the inventor of carrying out his/her invention--.

**¶ 12.76.03 Defect in 112, Second Paragraph, Rejection Argument**

The brief does not contain, for each rejection under 35 U.S.C. 112 (second paragraph), an argument which specifies the errors in the rejection and how the claims particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**¶ 12.76.04 Defect in 102 Rejection Argument**

The brief does not contain, for each rejection under 35 U.S.C. 102, an argument which specifies the errors in the rejection and why the rejected claims are patentable under 35 U.S.C. 102, including any specific limitations in the rejected claims which are not described in the prior art relied upon in the rejection.

**Examiner Note:**

Specify claim(s) for which no argument of error was specified.

**¶ 12.76.05 Defect in 103 Rejection Argument**

The brief does not contain, for each rejection under 35 U.S.C. 103, an argument which specifies the errors in the rejection and, if appropriate, the specific limitations in the rejected claims which are not described in the prior art relied upon in the rejection, and an explanation how such limitations render the claimed subject matter unobvious over the prior art. If the rejection is based upon a combination of references, the argument must explain why the references, taken as a whole do not suggest the claimed subject matter, and shall include, as may be appropriate, an explanation of why features disclosed in one reference may not be properly combined with features disclosed in another reference. A general argument that all the limitations are not described in a single reference does not satisfy the requirements of 37 CFR 1.192(c)(8)(iv).

**Examiner Note:**

Specify claim(s) for which no argument of error was specified.

**¶ 12.76.06 For Any Rejection Other Than Those Referred to in Paragraphs (c)(8)(i) to (iv) of 37 CFR 1.192 for Which No Argument or Error Was Specified**

The brief does not contain an argument which specifies the errors in the rejection and the specific limitations in the rejected claims, if appropriate, or other reasons, which cause the rejection to be in error.

**Examiner Note:**

Specify claim(s) for which for which no argument of error was specified.

**¶ 12.77 No Copy of Appealed Claims in Appendix**

The brief does not contain a copy of the claims involved in the appeal in the Appendix.

**¶ 12.78 Period For Response Under 37 CFR 1.192(d)**

Appellant is required to comply with provisions of 37 CFR 1.192(c). To avoid dismissal of the appeal, Appellant must comply with the provisions of 37 CFR 1.192(c) within the longest of any of the following TIME PERIODS: (1) ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing of this communication; (2) within the time period for reply to the action from which

appeal has been taken; or (3) within two months from the date of the notice of appeal under 37 CFR 1.191. Extensions of these time periods may be granted under 37 CFR 1.136.

#### **Examiner Note:**

This paragraph has limited application. To notify applicant of non-compliance with 37 CFR 1.192(c) examiner must use form PTOL-462.

### **1207 Amendment Filed With or After Appeal**

To expedite the resolution of cases under final rejection, an amendment filed at any time after final rejection, but before jurisdiction has passed to the Board (see MPEP § 1210), may be entered upon or after filing of an appeal brief provided that the amendment conforms to the requirements of 37 CFR 1.116. For example, if the amendment necessitates a new search, raises the issue of new matter, presents additional claims without cancelling a corresponding number of finally rejected claims, or otherwise introduces new issues, it will not be entered. A new amendment, new affidavit, or other new evidence must be submitted in a paper separate from the appeal brief. Entry of a new amendment, new affidavit, or other new evidence in an application on appeal is not a matter of right. The entry of an amendment (which may or may not include a new affidavit, declaration, or exhibit) submitted in an application on appeal continues to be governed by 37 CFR 1.116, and the entry of a new affidavit or other new evidence in an application on appeal is governed by 37 CFR 1.195. Examiners must respond to all nonentered amendments after final rejection, and indicate the status of each claim of record or proposed, including the designation of claims that would be entered on the filing of an appeal if filed in a separate paper. If the examiner indicates (in the advisory action) that a proposed amendment of the claim(s) would be entered for purposes of appeal, it is imperative for the examiner to also state (in the same advisory action) how the individual rejection(s) set forth in the final Office action will be used to reject the added or amended claim(s) in the examiner's answer. See 37 CFR 1.193(a)(2) and MPEP § 1208.01. Except where an amendment merely cancels claims and/or adopts examiner suggestions, removes issues from appeal, or in some other way requires only a cursory review by the examiner, compliance with the requirement of a showing under 37

CFR 1.116 will be expected of all amendments after final rejection.

If, after appeal has been taken, a paper is presented which *on its face* clearly places the application in condition for allowance, such paper should be entered and a Notice of Allowability form PTOL-37 promptly sent to applicant.

In accordance with the above, the brief must be directed to the claims and to the record of the case as they appeared at the time of the appeal, but it may, of course, withdraw from consideration on appeal any claims or issues as desired by appellant. Even if the appeal brief withdraws from consideration any claims or issues (i.e., appellant acquiesces to any rejection), the examiner must continue to make the rejection in the examiner's answer, unless an amendment obviating the rejection has been previously proposed and entered.

A timely filed brief will be referred to the examiner for consideration of its propriety as to the appeal issues and for preparation of an examiner's answer if the brief is proper and the application is not allowable. The examiner's answer may withdraw the rejection of claims, if appropriate. The examiner may also determine that it is necessary to reopen prosecution to enter a new ground of rejection. Note MPEP § 1208.02. No new ground of rejection, however, is permitted in an examiner's answer. 37 CFR 1.193(a)(2). See MPEP § 714.13 for procedure on handling amendments filed after final action and before appeal.

An amendment received after jurisdiction has passed to the Board should not be considered by the examiner unless remanded by the Board for such purpose. See MPEP § 1210 and § 1211.01.

Note that 37 CFR 1.192(c)(4) requires a statement as to the status of any amendment filed subsequent to the final rejection. See also MPEP § 1206.

### **1208 Examiner's Answer**

*37 CFR 1.193. Examiner's answer and reply brief.*

(a)(1) The primary examiner may, within such time as may be directed by the Commissioner, furnish a written statement in answer to appellant's brief including such explanation of the invention claimed and of the references and grounds of rejection as may be necessary, supplying a copy to appellant. If the primary examiner finds that the appeal is not regular in form or does not relate to an appealable action, the primary examiner shall so state.

(2) An examiner's answer must not include a new ground of rejection, but if an amendment under § 1.116 proposes to add or amend one or more claims and appellant was advised that the

§ 2144.09 for examples of reasoning supporting obviousness rejections.

When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper. *Ex parte Skinner*, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). A statement of a rejection that includes a large number of rejections must explain with reasonable specificity at least one rejection, otherwise the examiner procedurally fails to establish a *prima facie* case of obviousness. *Ex parte Blanc*, 13 USPQ2d 1383 (Bd. Pat. App. & Inter. 1989) (Rejection based on nine references which included at least 40 prior art rejections without explaining any one rejection with reasonable specificity was reversed as procedurally failing to establish a *prima facie* case of obviousness.).

If the examiner determines there is factual support for rejecting the claimed invention under 35 U.S.C. 103, the examiner must then consider any evidence supporting the patentability of the claimed invention, such as any evidence in the specification or any other evidence submitted by the applicant. The ultimate determination of patentability is based on the entire record, by a preponderance of evidence, with due consideration to the persuasiveness of any arguments and any secondary evidence. *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). The legal standard of “a preponderance of evidence” requires the evidence to be more convincing than the evidence which is offered in opposition to it. With regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.

When an applicant submits evidence, whether in the specification as originally filed or in reply to a rejection, the examiner must reconsider the patentability of the claimed invention. The decision on patentability must be made based upon consideration of all the evidence, including the evidence submitted by the examiner and the evidence submitted by the applicant. A decision to make or maintain a rejection in the face of all the evidence must show that it was based on the totality of the evidence. Facts established by rebuttal evidence must be evaluated along with the facts on which the conclusion of obviousness was

reached, not against the conclusion itself. *In re Eli Lilly & Co.*, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990).

See *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984) for a discussion of the proper roles of the examiner’s *prima facie* case and applicant’s rebuttal evidence in the final determination of obviousness. See MPEP § 706.02(j) for a discussion of the proper contents of a rejection under 35 U.S.C. 103.

## 2143 Basic Requirements of a *Prima Facie* Case of Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

### 2143.01 Suggestion or Motivation To Modify the References [R-2]

#### THE PRIOR ART MUST SUGGEST THE DESIRABILITY OF THE CLAIMED INVENTION

“There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.” *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

thus gradually decelerate.” The court found that the claim was anticipated by Menget. Menget taught a parachute having three circumferential panels separated by tie lines. The court upheld the rejection finding that applicant had failed to show that Menget did not possess the functional characteristics of the claims.); *Northam Warren Corp. v. D. F. Newfield Co.*, 7 F. Supp. 773, 22 USPQ 313 (E.D.N.Y. 1934) (A patent to a pencil for cleaning fingernails was held invalid because a pencil of the same structure for writing was found in the prior art.).

&gt;

## II. <COMPOSITION CLAIMS — IF THE COMPOSITION IS PHYSICALLY THE SAME, IT MUST HAVE THE SAME PROPERTIES

“Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) (Applicant argued that the claimed composition was a pressure sensitive adhesive containing a tacky polymer while the product of the reference was hard and abrasion resistant. “The Board correctly found that the virtual identity of monomers and procedures sufficed to support a *prima facie* case of unpatentability of Spada’s polymer latexes for lack of novelty.”).

&gt;

## III. PRODUCT CLAIMS – NONFUNCTIONAL PRINTED MATTER DOES NOT DISTINGUISH CLAIMED PRODUCT FROM OTHERWISE IDENTICAL PRIOR ART PRODUCT

Where the only difference between a prior art product and a claimed product is printed matter that is not functionally related to the product, the content of the printed matter will not distinguish the claimed product from the prior art. *In re Ngai*, \_\_\_ F.3d \_\_\_, 2004 WL 1068957 (Fed. Cir. May 13, 2004) (Claim at issue was a kit requiring instructions and a buffer agent. The Federal Circuit held that the claim was anticipated by a prior art reference that taught a kit that included instructions and a buffer agent, even though

the content of the instructions differed.). See also *In re Gulack*, 703 F.2d 1381, 1385-86, 217 USPQ 401, 404 (Fed. Cir. 1983) (“Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability....[T]he critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate.”).<

## 2112.02 Process Claims

### PROCESS CLAIMS — PRIOR ART DEVICE ANTICIPATES A CLAIMED PROCESS IF THE DEVICE CARRIES OUT THE PROCESS DURING NORMAL OPERATION

Under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986) (The claims were directed to a method of enhancing color effects produced by ambient light through a process of absorption and reflection of the light off a coated substrate. A prior art reference to *Donley* disclosed a glass substrate coated with silver and metal oxide 200-800 angstroms thick. While *Donley* disclosed using the coated substrate to produce architectural colors, the absorption and reflection mechanisms of the claimed process were not disclosed. However, *King*’s specification disclosed using a coated substrate of *Donley*’s structure for use in his process. The Federal Circuit upheld the Board’s finding that “*Donley* inherently performs the function disclosed in the method claims on appeal when that device is used in ‘normal and usual operation’ ” and found that a *prima facie* case of anticipation was made out. *Id.* at 138, 801 F.2d at 1326. It was up to applicant to prove that *Donley*’s structure would not perform the claimed method when placed in ambient light.). See also *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977) (Applicant claimed a process for preparing a hydrolytically-stable zeolitic aluminosilicate which included a step of “cooling the steam zeolite ...

at a rate sufficiently rapid that the cooled zeolite exhibits a X-ray diffraction pattern ....” All the process limitations were expressly disclosed by a U.S. patent to Hansford except the cooling step. The court stated that any sample of Hansford’s zeolite would necessarily be cooled to facilitate subsequent handling. Therefore, a *prima facie* case under 35 U.S.C. 102/103 was made. Applicant had failed to introduce any evidence comparing X-ray diffraction patterns showing a difference in cooling rate between the claimed process and that of Hansford or any data showing that the process of Hansford would result in a product with a different X-ray diffraction. Either type of evidence would have rebutted the *prima facie* case under 35 U.S.C. 102. A further analysis would be necessary to determine if the process was unobvious under 35 U.S.C. 103.); *Ex parte Novitski*, 26 USPQ2d 1389 (Bd. Pat. App. & Inter. 1993) (The Board rejected a claim directed to a method for protecting a plant from plant pathogenic nematodes by inoculating the plant with a nematode inhibiting strain of *P. cepacia*. A U.S. patent to Dart disclosed inoculation using *P. cepacia* type Wisconsin 526 bacteria for protecting the plant from fungal disease. Dart was silent as to nematode inhibition but the Board concluded that nematode inhibition was an inherent property of the bacteria. The Board noted that applicant had stated in the specification that Wisconsin 526 possesses an 18% nematode inhibition rating.).

#### PROCESS OF USE CLAIMS — NEW AND UN-OBVIOUS USES OF OLD STRUCTURES AND COMPOSITIONS MAY BE PATENTABLE

The discovery of a new use for an old structure based on unknown properties of the structure might be patentable to the discoverer as a process of using. *In re Hack*, 245 F.2d 246, 248, 114 USPQ 161, 163 (CCPA 1957). However, when the claim recites using an old composition or structure and the “use” is directed to a result or property of that composition or structure, then the claim is anticipated. *In re May*, 574 F.2d 1082, 1090, 197 USPQ 601, 607 (CCPA 1978) (Claims 1 and 6, directed to a method of effecting nonaddictive analgesia (pain reduction) in animals, were found to be anticipated by the applied prior art which disclosed the same compounds for effecting analgesia but which was silent as to addiction. The court upheld the rejection and stated that the

applicants had merely found a new property of the compound and such a discovery did not constitute a new use. The court went on to reverse the rejection of claims 2-5 and 7-10 which recited a process of using a new compound. The court relied on evidence showing that the nonaddictive property of the new compound was unexpected.). See also *In re Tomlinson*, 363 F.2d 928, 150 USPQ 623 (CCPA 1966) (The claim was directed to a process of inhibiting light degradation of polypropylene by mixing it with one of a genus of compounds, including nickel dithiocarbamate. A reference taught mixing polypropylene with nickel dithiocarbamate to lower heat degradation. The court held that the claims read on the obvious process of mixing polypropylene with the nickel dithiocarbamate and that the preamble of the claim was merely directed to the result of mixing the two materials. “While the references do not show a specific recognition of that result, its discovery by appellants is tantamount only to finding a property in the old composition.” 363 F.2d at 934, 150 USPQ at 628 (emphasis in original).).

#### 2113 Product-by-Process Claims [R-1]

##### PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not

absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, “consisting essentially of” will be construed as equivalent to “comprising.” See, e.g., *PPG*, 156 F.3d at 1355, 48 USPQ2d at 1355 (“PPG could have defined the scope of the phrase ‘consisting essentially of’ for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention.”). See also *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1240-41, 68 USPQ2d 1280, 1283-84 (Fed. Cir. 2003) (Applicant’s statement in the specification that “silicon contents in the coating metal should not exceed about 0.5% by weight” along with a discussion of the deleterious effects of silicon provided basis to conclude that silicon in excess of 0.5% by weight would materially alter the basic and novel properties of the invention. Thus, “consisting essentially of” as recited in the preamble was interpreted to permit no more than 0.5% by weight of silicon in the aluminum coating.); *In re Janakirama-Rao*, 317 F.2d 951, 954, 137 USPQ 893, 895-96 (CCPA 1963). If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of,” applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also *Ex parte Hoffman*, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989) (“Although ‘consisting essentially of’ is typically used and defined in the context of compositions of matter, we find nothing intrinsically wrong with the use of such language as a modifier of method steps. . . [rendering] the claim open only for the inclusion of steps which do not materially affect the basic and novel characteristics of the claimed method. To determine the steps included versus excluded the claim must be read in light of the specification. . . . [I]t is an applicant’s burden to establish that a step practiced in a prior art method is excluded from his claims by ‘consisting essentially of’ language.”).

#### OTHER TRANSITIONAL PHRASES

Transitional phrases such as “having” must be interpreted in light of the specification to determine

whether open or closed claim language is intended. See, e.g., *Lampi Corp. v. American Power Products Inc.*, 228 F.3d 1365, 1376, 56 USPQ2d 1445, 1453 (Fed. Cir. 2000) (The term “having” was interpreted as open terminology, allowing the inclusion of other components in addition to those recited); *Crystal Semiconductor Corp. v. TriTech Microelectronics Int’l Inc.*, 246 F.3d 1336, 1348, 57 USPQ2d 1953, 1959 (Fed. Cir. 2001) (term “having” in transitional phrase “does not create a presumption that the body of the claim is open”); *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1573, 43 USPQ2d 1398, 1410 (Fed. Cir. 1997) (In the context of a cDNA having a sequence coding for human PI, the term “having” still permitted inclusion of other moieties.). The transitional phrase “composed of” has been interpreted in the same manner as either “consisting of” or “consisting essentially of,” depending on the facts of the particular case. See *AFG Industries, Inc. v. Cardinal IG Company*, 239 F.3d 1239, 1245, 57 USPQ2d 1776, 1780-81 (Fed. Cir. 2001) (based on specification and other evidence, “composed of” interpreted in same manner as “consisting essentially of”); *In re Bertsch*, 132 F.2d 1014, 1019-20, 56 USPQ 379, 384 (CCPA 1942) (“Composed of” interpreted in same manner as “consisting of”; however, court further remarked that “the words ‘composed of’ may under certain circumstances be given, in patent law, a broader meaning than ‘consisting of.’”).

#### 2112 Requirements of Rejection Based on Inherency; Burden of Proof [R-2]

The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. “The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness.” *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (affirmed a 35 U.S.C. 103 rejection based in part on inherent disclosure in one of the references). See also *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983).

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# **I. <SOMETHING WHICH IS OLD DOES NOT BECOME PATENTABLE UPON THE DISCOVERY OF A NEW PROPERTY**

\*> “[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the < claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). See also MPEP § 2112.01 with regard to inherency and product-by-process claims and MPEP § 2141.02 with regard to inherency and rejections under 35 U.S.C. 103.

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# **II. INHERENT FEATURE NEED NOT BE RECOGNIZED AT THE TIME OF THE INVENTION**

There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure *at the time of invention*, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003) (rejecting the contention that inherent anticipation requires recognition by a person of ordinary skill in the art before the critical date and allowing expert testimony with respect to post-critical date clinical trials to show inherency); see also *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320, 69 USPQ2d 1584, 1590 (Fed. Cir. 2004) (“[T]he fact that a characteristic is a necessary feature or result of a prior-art embodiment (that is itself sufficiently described and enabled) is enough for inherent anticipation, even if that fact was unknown at the time of the prior invention.”); *Abbott Labs v. Geneva Pharms., Inc.*, 182 F.3d 1315, 1319, 51 USPQ2d 1307, 1310 (Fed.Cir.1999) (“If a product that is offered for sale inherently possesses each of the limitations of the claims, then the invention is on sale, whether or not the parties to the transaction recognize that the product possesses the claimed characteristics.”); *Atlas Powder Co. v. Ireco, Inc.*, 190 F.3d 1342,

1348-49 (Fed. Cir. 1999) (“Because ‘sufficient aeration’ was inherent in the prior art, it is irrelevant that the prior art did not recognize the key aspect of [the] invention.... An inherent structure, composition, or function is not necessarily known.”).

# **III. <A REJECTION UNDER 35 U.S.C. 102/103 CAN BE MADE WHEN THE PRIOR ART PRODUCT SEEMS TO BE IDENTICAL EXCEPT THAT THE PRIOR ART IS SILENT AS TO AN INHERENT CHARACTERISTIC**

Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. “There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102.” *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims.

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# **IV. <EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING TO SHOW INHERENCY**

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a

certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (The claims were drawn to a disposable diaper having three fastening elements. The reference disclosed two fastening elements that could perform the same function as the three fastening elements in the claims. The court construed the claims to require three separate elements and held that the reference did not disclose a separate third fastening element, either expressly or inherently.).

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) (Applicant's invention was directed to a biaxially oriented, flexible dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients). The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to expand it against a mold (blow molding). The reference did not directly state that the end product balloon was biaxially oriented. It did disclose that the balloon was "formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material." *Id.* at 1462 (emphasis in original). The examiner argued that Schjeldahl's balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

In *In re Schreiber*, 128 F.3d 1473, 44 USPQ2d 1429 (Fed. Cir. 1997), the court affirmed a finding that a prior patent to a conical spout used primarily to dispense oil from an oil can inherently performed the functions recited in applicant's claim to a conical container top for dispensing popped popcorn. The examiner had asserted inherency based on the structural similarity between the patented spout and applicant's disclosed top, i.e., both structures had the same general shape. The court stated:

[N]othing in Schreiber's [applicant's] claim suggests that Schreiber's container is of a 'different shape' than Harz's [patent]. In fact, [ ] an embodiment according to Harz

(Fig. 5) and the embodiment depicted in Fig. 1 of Schreiber's application have the same general shape. For that reason, the examiner was justified in concluding that the opening of a conically shaped top as disclosed by Harz is inherently of a size sufficient to 'allow [ ] several kernels of popped popcorn to pass through at the same time' and that the taper of Harz's conically shaped top is inherently of such a shape 'as to by itself jam up the popped popcorn before the end of the cone and permit the dispensing of only a few kernels at a shake of a package when the top is mounted to the container.' The examiner therefore correctly found that Harz established a *prima facie* case of anticipation.

*In re Schreiber*, 128 F.3d at 1478, 44 USPQ2d at 1432.

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**V. <ONCE A REFERENCE TEACHING PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS MADE THE BASIS OF A REJECTION, AND THE EXAMINER PRESENTS EVIDENCE OR REASONING TENDING TO SHOW INHERENCY, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBVIOUS DIFFERENCE**

"[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on '*prima facie* obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

In *In re Fitzgerald*, the claims were directed to a self-locking screw-threaded fastener comprising a metallic threaded fastener having patches of crystallizable thermoplastic bonded thereto. The claim further specified that the thermoplastic had a reduced degree of crystallization shrinkage. The specification disclosed that the locking fastener was made by heating the metal fastener to melt a thermoplastic blank which is pressed against the metal. After the thermoplastic adheres to the metal fastener, the end product is cooled by quenching in water. The examiner made a rejection based on a U.S. patent to Barnes. Barnes

taught a self-locking fastener in which the patch of thermoplastic was made by depositing thermoplastic powder on a metallic fastener which was then heated. The end product was cooled in ambient air, by cooling air or by contacting the fastener with a water trough. The court first noted that the two fasteners were identical or only slightly different from each other. "Both fasteners possess the same utility, employ the same crystallizable polymer (nylon 11), and have an adherent plastic patch formed by melting and then cooling the polymer." *Id.* at 596 n.1, 619 F.2d at 70 n.1. The court then noted that the Board had found that Barnes' cooling rate could reasonably be expected to result in a polymer possessing the claimed crystallization shrinkage rate. Applicants had not rebutted this finding with evidence that the shrinkage rate was indeed different. They had only argued that the crystallization shrinkage rate was dependent on the cool down rate and that the cool down rate of Barnes was much slower than theirs. Because a difference in the cool down rate does not necessarily result in a difference in shrinkage, objective evidence was required to rebut the 35 U.S.C. 102/103 *prima facie* case.

In *In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997), the court held that applicant's declaration failed to overcome a *prima facie* case of anticipation because the declaration did not specify the dimensions of either the dispensing top that was tested or the popcorn that was used. Applicant's declaration merely asserted that a conical dispensing top built according to a figure in the prior art patent was too small to jam and dispense popcorn and thus could not inherently perform the functions recited in applicant's claims. The court pointed out the disclosure of the prior art patent was not limited to use as an oil can dispenser, but rather was broader than the precise configuration shown in the patent's figure. The court also noted that the Board of Patent Appeals and Interferences found as a factual matter that a scaled-up version of the top disclosed in the patent would be capable of performing the functions recited in applicant's claim.

See MPEP § 2113 for more information on the analogous burden of proof applied to product-by-process claims.

## 2112.01 Composition, Product, and Apparatus Claims [R-2]

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### I. <PRODUCT AND APPARATUS CLAIMS — WHEN THE STRUCTURE RECITED IN THE REFERENCE IS SUBSTANTIALLY IDENTICAL TO THAT OF THE CLAIMS, CLAIMED PROPERTIES OR FUNCTIONS ARE PRESUMED TO BE INHERENT

Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Claims were directed to a titanium alloy containing 0.2-0.4% Mo and 0.6-0.9% Ni having corrosion resistance. A Russian article disclosed a titanium alloy containing 0.25% Mo and 0.75% Ni but was silent as to corrosion resistance. The Federal Circuit held that the claim was anticipated because the percentages of Mo and Ni were squarely within the claimed ranges. The court went on to say that it was immaterial what properties the alloys had or who discovered the properties because the composition is the same and thus must necessarily exhibit the properties.).

See also *In re Ludtke*, 441 F.2d 660, 169 USPQ 563 (CCPA 1971) (Claim 1 was directed to a parachute canopy having concentric circumferential panels radially separated from each other by radially extending tie lines. The panels were separated "such that the critical velocity of each successively larger panel will be less than the critical velocity of the previous panel, whereby said parachute will sequentially open and

a conclusion. The known chemical relationship between structurally similar compounds (homologs, analogs, isomers) did not support a finding of *prima facie* obviousness of claimed zeolite over the prior art because a zeolite is not a compound but a mixture of compounds related to each other by a particular crystal structure.). Although the theoretical mechanism of an invention may be explained by logic and sound scientific reasoning, this fact does not support an obviousness determination unless logic and scientific reasoning would have led one of ordinary skill in the art to make the claimed invention. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

### 2144.03 Reliance on Common Knowledge in the Art or “Well Known” Prior Art [R-1]

**\*\*>**In limited circumstances, it is appropriate for an examiner to take official notice of facts not in the record or to rely on “common knowledge” in making a rejection, however such rejections should be judiciously applied.

#### PROCEDURE FOR RELYING ON COMMON KNOWLEDGE OR TAKING OFFICIAL NOTICE

The standard of review applied to findings of fact is the “substantial evidence” standard under the Administrative Procedure Act (APA). See *In re Gartside*, 203 F.3d 1305, 1315, 53 USPQ2d 1769, 1775 (Fed. Cir. 2000). See also MPEP § 1216.01. In light of recent Federal Circuit decisions as discussed below and the substantial evidence standard of review now applied to USPTO Board decisions, the following guidance is provided in order to assist the examiners in determining when it is appropriate to take official notice of facts without supporting documentary evidence or to rely on common knowledge in the art in making a rejection, and if such official notice is taken, what evidence is necessary to support the examiner’s conclusion of common knowledge in the art.

#### A. Determine When It Is Appropriate To Take Official Notice Without Documentary Evidence To Support The Examiner’s Conclusion

Official notice without documentary evidence to support an examiner’s conclusion is permissible only

in some circumstances. While “official notice” may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be “capable of such instant and unquestionable demonstration as to defy dispute” (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). In *Ahlert*, the court held that the Board properly took judicial notice that “it is old to adjust intensity of a flame in accordance with the heat requirement.” See also *In re Fox*, 471 F.2d 1405, 1407, 176 USPQ 340, 341 (CCPA 1973) (the court took “judicial notice of the fact that tape recorders commonly erase tape automatically when new ‘audio information’ is recorded on a tape which already has a recording on it”). In appropriate circumstances, it might not be unreasonable to take official notice of the fact that it is desirable to make something faster, cheaper, better, or stronger without the specific support of documentary evidence. Furthermore, it might not be unreasonable for the examiner in a first Office action to take official notice of facts by asserting that certain limitations in a dependent claim are old and well known expedients in the art without the support of documentary evidence provided the facts so noticed are of notorious character and serve only to “fill in the gaps” which might exist in the evidentiary showing made by the examiner to support a particular ground of rejection. *In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); *Ahlert*, 424 F.2d at 1092, 165 USPQ at 421.

It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art. *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21. See also *In re*

*Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979) (“[W]hen the PTO seeks to rely upon a chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory.”); *In re Eynde*, 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973) (“[W]e reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.”).

It is never appropriate to rely solely on “common knowledge” in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 (“[T]he Board cannot simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.”). While the court explained that, “as an administrative tribunal the Board clearly has expertise in the subject matter over which it exercises jurisdiction,” it made clear that such “expertise may provide sufficient support for conclusions [only] as to peripheral issues.” *Id.* at 1385-86, 59 USPQ2d at 1697. As the court held in *Zurko*, an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support. *Id.* at 1385, 59 USPQ2d at 1697. See also *In re Lee*, 277 F.3d 1338, 1344-45, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002) (In reversing the Board’s decision, the court stated “ ‘common knowledge and common sense’ on which the Board relied in rejecting Lee’s application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfill the agency’s obligation....The board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies.”).

***B. If Official Notice Is Taken of a Fact, Unsupported by Documentary Evidence, the Technical Line Of Reasoning Underlying a Decision To Take Such Notice Must Be Clear and Unmistakable***

Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge. See *Lee*, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 (holding that general conclusions concerning what is “basic knowledge” or “common sense” to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection). In certain older cases, official notice has been taken of a fact that is asserted to be “common knowledge” without specific reliance on documentary evidence where the fact noticed was readily verifiable, such as when other references of record supported the noticed fact, or where there was nothing of record to contradict it. See *In re Soli*, 317 F.2d 941, 945-46, 137 USPQ 797, 800 (CCPA 1963) (accepting the examiner’s assertion that the use of “a control is standard procedure throughout the entire field of bacteriology” because it was readily verifiable and disclosed in references of record not cited by the Office); *In re Chevenard*, 139 F.2d 711, 713, 60 USPQ 239, 241 (CCPA 1943) (accepting the examiner’s finding that a brief heating at a higher temperature was the equivalent of a longer heating at a lower temperature where there was nothing in the record to indicate the contrary and where the applicant never demanded that the examiner produce evidence to support his statement). If such notice is taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. See *Soli*, 317 F.2d at 946, 37 USPQ at 801; *Chevenard*, 139 F.2d at 713, 60 USPQ at 241. The applicant should be presented with the explicit basis on which the examiner regards the matter as subject to official notice and be allowed to challenge the assertion in the next reply after the Office action in which the common knowledge statement was made.

**C. *If Applicant Challenges a Factual Assertion as Not Properly Officially Noticed or not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding With Adequate Evidence***

To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also *Chevenard*, 139 F.2d at 713, 60 USPQ at 241 ("[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention."). A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 ("[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2).

If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate.

**D. *Determine Whether the Next Office Action Should Be Made Final***

If the examiner adds a reference in the next Office action after applicant's rebuttal, and the newly added reference is added only as directly corresponding evidence to support the prior common knowledge finding, and it does not result in a new issue or constitute a

new ground of rejection, the Office action may be made final. If no amendments are made to the claims, the examiner must not rely on any other teachings in the reference if the rejection is made final. If the newly cited reference is added for reasons other than to support the prior common knowledge statement and a new ground of rejection is introduced by the examiner that is not necessitated by applicant's amendment of the claims, the rejection may not be made final. See MPEP § 706.07(a).

**E. *Summary***

Any rejection based on assertions that a fact is well-known or is common knowledge in the art without documentary evidence to support the examiner's conclusion should be judiciously applied. Furthermore, as noted by the court in *Ahlert*, any facts so noticed should be of notorious character and serve only to "fill in the gaps" in an insubstantial manner which might exist in the evidentiary showing made by the examiner to support a particular ground for rejection. It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based. See *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697; *Ahlert*, 424 F.2d at 1092, 165 USPQ 421.<

**2144.04 Legal Precedent as Source of Supporting Rationale [R-1]**

As discussed in MPEP § 2144, if the facts in a prior legal decision are sufficiently similar to those in an application under examination, the examiner may use the rationale used by the court. Examples directed to various common practices which the court has held normally require only ordinary skill in the art and hence are considered routine expedients are discussed below. If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection.

**I. AESTHETIC DESIGN CHANGES**

*In re Seid*, 161 F.2d 229, 73 USPQ 431 (CCPA 1947) (Claim was directed to an advertising display device comprising a bottle and a hollow member in the shape of a human figure from the waist up which

(preparation of application in U.S. for foreign filing constitutes diligence); *De Solms v. Schoenwald*, 15 USPQ2d 1507 (Bd. Pat. App. & Inter. 1990) (principles of diligence must be given to inventor's circumstances including skill and time; requirement of corroboration applies only to testimony of inventor); *Huelster v. Reiter*, 168 F.2d 542, 78 USPQ 82 (CCPA 1948) (if inventor was not able to make an actual reduction to practice of the invention, he must also show why he was not able to constructively reduce the invention to practice by the filing of an application).

### DILIGENCE REQUIRED IN PREPARING AND FILING PATENT APPLICATION

The diligence of attorney in preparing and filing patent application inures to the benefit of the inventor. Conception was established at least as early as the date a draft of a patent application was finished by a patent attorney on behalf of the inventor. Conception is less a matter of signature than it is one of disclosure. Attorney does not prepare a patent application on behalf of particular named persons, but on behalf of the true inventive entity. Six days to execute and file application is acceptable. *Haskell v. Coleburne*, 671 F.2d 1362, 213 USPQ 192, 195 (CCPA 1982). See also *Bey v. Kollonitsch*, 866 F.2d 1024, 231 USPQ 967 (Fed. Cir. 1986) (Reasonable diligence is all that is required of the attorney. Reasonable diligence is established if attorney worked reasonably hard on the application during the continuous critical period. If the attorney has a reasonable backlog of unrelated cases which he takes up in chronological order and carries out expeditiously, that is sufficient. Work on a related case(s) that contributed substantially to the ultimate preparation of an application can be credited as diligence.).

### END OF DILIGENCE PERIOD IS MARKED BY EITHER ACTUAL OR CONSTRUCTIVE REDUCTION TO PRACTICE

"[I]t is of no moment that the end of that period [for diligence] is fixed by a constructive, rather than an actual, reduction to practice." *Justus v. Appenzeller*, 177 USPQ 332, 340-41 (Bd. Pat. Inter. 1971).

## 2141 35 U.S.C. 103; the Graham Factual Inquiries

*35 U.S.C. 103. Conditions for patentability; non-obvious subject matter.*

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(b)(1) Notwithstanding subsection (a), and upon timely election by the applicant for patent to proceed under this subsection, a biotechnological process using or resulting in a composition of matter that is novel under section 102 and nonobvious under subsection (a) of this section shall be considered nonobvious if-

(A) claims to the process and the composition of matter are contained in either the same application for patent or in separate applications having the same effective filing date; and

(B) the composition of matter, and the process at the time it was invented, were owned by the same person or subject to an obligation of assignment to the same person.

(2) A patent issued on a process under paragraph (1)-

(A) shall also contain the claims to the composition of matter used in or made by that process, or

(B) shall, if such composition of matter is claimed in another patent, be set to expire on the same date as such other patent, notwithstanding section 154.

(3) For purposes of paragraph (1), the term "biotechnological process" means-

(A) a process of genetically altering or otherwise inducing a single- or multi-celled organism to-

(i) express an exogenous nucleotide sequence,

(ii) inhibit, eliminate, augment, or alter expression of an endogenous nucleotide sequence, or

(iii) express a specific physiological characteristic not naturally associated with said organism;

(B) cell fusion procedures yielding a cell line that expresses a specific protein, such as a monoclonal antibody; and

(C) a method of using a product produced by a process defined by subparagraph (A) or (B), or a combination of subparagraphs (A) and (B).

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

## STANDARD OF PATENTABILITY TO BE APPLIED IN OBVIOUSNESS REJECTIONS

Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case. The Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), stated:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. . .

This is not to say, however, that there will not be difficulties in applying the nonobviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference as negligence and scienter, and should be amenable to a case-by-case development. We believe that strict observance of the requirements laid down here will result in that uniformity and definitiveness which Congress called for in the 1952 Act.

Office policy is to follow *Graham v. John Deere Co.* in the consideration and determination of obviousness under 35 U.S.C. 103. As quoted above, the four factual inquiries enunciated therein as a background for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

The Supreme Court reaffirmed and relied upon the *Graham* three pronged test in its consideration and determination of obviousness in the fact situations presented in *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 189 USPQ 449, *reh'g denied*, 426 U.S. 955 (1976)

and *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 163 USPQ 673 (1969). In each case, the Court discussed whether the claimed combinations produced a “new or different function” and a “synergistic result,” but it clearly decided whether the claimed inventions were nonobviousness on the basis of the three-way test in *Graham*. Nowhere in its decisions in these cases does the Court state that the “new or different function” and “synergistic result” tests supersede a finding of nonobvious or obviousness under the *Graham* test.

Accordingly, examiners should apply the test for patentability under 35 U.S.C. 103 set forth in *Graham*. See below for a detailed discussion of each of the *Graham* factual inquiries. It should be noted that the Supreme Court's application of the *Graham* test to the fact circumstances in *Ag Pro* was somewhat stringent, as it was in *Black Rock*. Note *Republic Industries, Inc. v. Schlage Lock Co.*, 592 F.2d 963, 200 USPQ 769 (7th Cir. 1979). The Court of Appeals for the Federal Circuit stated in *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540, 218 USPQ 871, 880 (Fed. Cir. 1983) that

A requirement for “synergism” or a “synergistic effect” is nowhere found in the statute, 35 U.S.C. When present, for example in a chemical case, synergism may point toward nonobviousness, but its absence has no place in evaluating the evidence on obviousness. The more objective findings suggested in *Graham*, supra, are drawn from the language of the statute and are fully adequate guides for evaluating the evidence relating to compliance with 35 U.S.C. § 103. *Bowser Inc. v. United States*, 388 F. 2d 346, 156 USPQ 406 (Ct. Cl. 1967).

## BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

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*Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

## OBJECTIVE EVIDENCE MUST BE CONSIDERED

Objective evidence or secondary considerations such as unexpected results, commercial success, long-felt need, failure of others, copying by others, licensing, and skepticism of experts are relevant to the issue of obviousness and must be considered in every case in which they are present. When evidence of any of these secondary considerations is submitted, the examiner must evaluate the evidence. The weight to be accorded to the evidence depends on the individual factual circumstances of each case. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987). The ultimate determination on patentability is made on the entire record. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

See MPEP § 716- § 716.06 for a discussion of objective evidence and its role in the final legal determination of whether a claimed invention would have been obvious under 35 U.S.C. 103.

## 2141.01 Scope and Content of the Prior Art

### I. PRIOR ART AVAILABLE UNDER 35 U.S.C. 102 IS AVAILABLE UNDER 35 U.S.C. 103

"Before answering *Graham's* 'content' inquiry, it must be known whether a patent or publication is in the prior art under 35 U.S.C. § 102." *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 USPQ2d 1593, 1597 (Fed. Cir.), *cert. denied*, 481 U.S. 1052 (1987). Subject matter that is prior art under 35 U.S.C. 102 can be used to support a rejection under section 103. *Ex parte Andresen*, 212 USPQ 100, 102 (Bd. Pat. App. & Inter. 1981) ("it appears to us that the commentator [of 35 U.S.C.A.] and the [congressional] committee viewed section 103 as including all of the various bars to a patent as set forth in section 102.").

A 35 U.S.C. 103 rejection is based on 35 U.S.C. 102(a), 102(b), 102(e), etc. depending on the type of prior art reference used and its publication or issue

date. For instance, an obviousness rejection over a U.S. patent which was issued more than 1 year before the filing date of the application is said to be a statutory bar just as if it anticipated the claims under 35 U.S.C. 102(b). Analogously, an obviousness rejection based on a publication which would be applied under 102(a) if it anticipated the claims can be overcome by swearing behind the publication date of the reference by filing an affidavit or declaration under 37 CFR 1.131.

For an overview of what constitutes prior art under 35 U.S.C. 102, see MPEP § 901 - § 901.06(d) and § 2121 - § 2129.

### II. SUBSTANTIVE CONTENT OF THE PRIOR ART

See MPEP § 2121 - § 2129 for case law relating to the substantive content of the prior art (e.g., availability of inoperative devices, extent to which prior art must be enabling, broad disclosure rather than preferred embodiments, admissions, etc.).

### III. CONTENT OF THE PRIOR ART IS DETERMINED AT THE TIME THE INVENTION WAS MADE TO AVOID HINDSIGHT

The requirement "at the time the invention was made" is to avoid impermissible hindsight. See MPEP § 2145, paragraph X.A. for a discussion of rebutting applicants' arguments that a rejection is based on hindsight.

"It is difficult but necessary that the decisionmaker forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

### IV. 35 U.S.C. 103(c) — EVIDENCE REQUIRED TO SHOW CONDITIONS OF 35 U.S.C. 103 APPLY

An applicant who wants to avail himself or herself of the benefits of 35 U.S.C. 103(c) has the burden of establishing that subject matter which qualifies as prior art under subsection (e), (f) or (g) of section

because spending 25-35% of sales on marketing was not inordinate (mature companies spent 17-32% of sales in this market), and advertising served primarily to make industry aware of the product because this is not kind of merchandise that can be sold by advertising hyperbole.).

&gt;

## II. < COMMERCIAL SUCCESS MUST FLOW FROM THE FUNCTIONS AND ADVANTAGES DISCLOSED OR INHERENT IN THE SPECIFICATION DESCRIPTION

To be pertinent to the issue of nonobviousness, the commercial success of devices falling within the claims of the patent must flow from the functions and advantages disclosed or inherent in the description in the specification. Furthermore, the success of an embodiment within the claims may not be attributable to improvements or modifications made by others. *In re Vamco Machine & Tool, Inc.*, 752 F.2d 1564, 224 USPQ 617 (Fed. Cir. 1985).

&gt;

## III. < IN DESIGN CASES, ESTABLISHMENT OF NEXUS IS ESPECIALLY DIFFICULT

Establishing a nexus between commercial success and the claimed invention is especially difficult in design cases. Evidence of commercial success must be clearly attributable to the design to be of probative value, and not to brand name recognition, improved performance, or some other factor. *Litton Systems, Inc. v. Whirlpool Corp.*, 728 F.2d 1423, 221 USPQ 97 (Fed. Cir. 1984) (showing of commercial success was not accompanied by evidence attributing commercial success of Litton microwave oven to the design thereof).

&gt;

## IV. < SALES FIGURES MUST BE ADEQUATELY DEFINED

Gross sales figures do not show commercial success absent evidence as to market share, *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985), or as to the time period during which the product was sold, or as to what sales would normally be expected in the market,

*Ex parte Standish*, 10 USPQ2d 1454 (Bd. Pat. App. & Inter. 1988).

## 716.04 Long-Felt Need and Failure of Others [R-2]

&gt;

### I. < THE CLAIMED INVENTION MUST SATISFY A LONG-FELT NEED WHICH WAS RECOGNIZED, PERSISTENT, AND NOT SOLVED BY OTHERS

Establishing long-felt need requires objective evidence that an art recognized problem existed in the art for a long period of time without solution. The relevance of long-felt need and the failure of others to the issue of obviousness depends on several factors. First, the need must have been a persistent one that was recognized by those of ordinary skill in the art. *In re Gershon*, 372 F.2d 535, 539, 152 USPQ 602, 605 (CCPA 1967) ("Since the alleged problem in this case was first recognized by appellants, and others apparently have not yet become aware of its existence, it goes without saying that there could not possibly be any evidence of either a long felt need in the . . . art for a solution to a problem of dubious existence or failure of others skilled in the art who unsuccessfully attempted to solve a problem of which they were not aware."); *Orthopedic Equipment Co., Inc. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 217 USPQ 1281 (Fed. Cir. 1983) (Although the claimed invention achieved the desirable result of reducing inventories, there was no evidence of any prior unsuccessful attempts to do so.).

Second, the long-felt need must not have been satisfied by another before the invention by applicant. *Newell Companies v. Kenney Mfg. Co.*, 864 F.2d 757, 768, 9 USPQ2d 1417, 1426 (Fed. Cir. 1988) (Although at one time there was a long-felt need for a "do-it-yourself" window shade material which was adjustable without the use of tools, a prior art product fulfilled the need by using a scored plastic material which could be torn. "[O]nce another supplied the key element, there was no long-felt need or, indeed, a problem to be solved".)

Third, the invention must in fact satisfy the long-felt need. *In re Cavanagh*, 436 F.2d 491, 168 USPQ 466 (CCPA 1971).

&gt;

## II. < LONG- FELT NEED IS MEASURED FROM THE DATE A PROBLEM IS IDENTIFIED AND EFFORTS ARE MADE TO SOLVE IT

Long-felt need is analyzed as of the date the problem is identified and articulated, and there is evidence of efforts to solve that problem, not as of the date of the most pertinent prior art references. *Texas Instruments Inc. v. Int'l Trade Comm'n*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed. Cir. 1993).

&gt;

## III. < OTHER FACTORS CONTRIBUTING TO THE PRESENCE OF A LONG- FELT NEED MUST BE CONSIDERED

The failure to solve a long-felt need may be due to factors such as lack of interest or lack of appreciation of an invention's potential or marketability rather than want of technical know-how. *Scully Signal Co. v. Electronics Corp. of America*, 570 F.2d 355, 196 USPQ 657 (1st. Cir. 1977).

See also *Environmental Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 698, 218 USPQ 865, 869 (Fed. Cir. 1983) (presence of legislative regulations for controlling sulfur dioxide emissions did not militate against existence of long-felt need to reduce the sulfur content in the air); *In re Tiffin*, 443 F.2d 344, 170 USPQ 88 (CCPA 1971) (fact that affidavit supporting contention of fulfillment of a long-felt need was sworn by a licensee adds to the weight to be accorded the affidavit, as long as there is a *bona fide* licensing agreement entered into at arm's length).

### 716.05 Skepticism of Experts

"Expressions of disbelief by experts constitute strong evidence of nonobviousness." *Environmental Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 698, 218 USPQ 865, 869 (Fed. Cir. 1983) (citing *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 483-484 (1966)) (The patented process converted all the sulfur compounds in a certain effluent gas stream to hydrogen sulfide, and thereafter treated the resulting effluent for removal of hydrogen sulfide. Before learning of the patented process, chemical experts, aware of earlier failed efforts to reduce the sulfur content of effluent gas streams, were of the

opinion that reducing sulfur compounds to hydrogen sulfide would not adequately solve the problem.).

"The skepticism of an expert, expressed before these inventors proved him wrong, is entitled to fair evidentiary weight, . . . as are the five to six years of research that preceded the claimed invention." *In re Dow Chemical Co.*, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988); *Burlington Industries Inc. v. Quigg*, 822 F.2d 1581, 3 USPQ2d 1436 (Fed. Cir. 1987) (testimony that the invention met with initial incredulity and skepticism of experts was sufficient to rebut the *prima facie* case of obviousness based on the prior art).

### 716.06 Copying

Another form of secondary evidence which may be presented by applicants during prosecution of an application, but which is more often presented during litigation, is evidence that competitors in the marketplace are copying the invention instead of using the prior art. However, more than the mere fact of copying is necessary to make that action significant because copying may be attributable to other factors such as a lack of concern for patent property or contempt for the patentees ability to enforce the patent. *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985). Evidence of copying was persuasive of nonobviousness when an alleged infringer tried for a substantial length of time to design a product or process similar to the claimed invention, but failed and then copied the claimed invention instead. *Dow Chem. Co. v. American Cyanamid Co.*, 837 F.2d 469, 2 USPQ2d 1350 (Fed. Cir. 1987). Alleged copying is not persuasive of nonobviousness when the copy is not identical to the claimed product, and the other manufacturer had not expended great effort to develop its own solution. *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 227 USPQ 766 (Fed. Cir. 1985). See also *Vandenberg v. Dairy Equipment Co.*, 740 F.2d 1560, 1568, 224 USPQ 195, 199 (Fed. Cir. 1984) (evidence of copying not found persuasive of nonobviousness) and *Panduit Corp. v. Dennison Manufacturing Co.*, 774 F.2d 1082, 1098-99, 227 USPQ 337, 348, 349 (Fed. Cir. 1985), *vacated on other grounds*, 475 U.S. 809, 229 USPQ 478 (1986), *on remand*, 810 F.2d 1561, 1 USPQ2d 1593 (Fed. Cir. 1987) (evidence of copying found persuasive of nonobviousness where admit-

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